2015

CEO Duality and Performance of Not-For-Profit Hospitals

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Abstract

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MS, John Hancock University, Chicago, 2011

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Dissertation Submitted in Partial Fulfillment

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Leadership and Organizational Change

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Abstract

Depending on their needs for enhancing and sustaining their business and market values, some firms choose to operate with a corporate governance structure of CEO duality, in which an executive serves as the CEO and the chairperson of the board of directors. The problem addressed in this study is that past empirical and theoretical studies of the relationship between CEO duality and firm performance of organizations across different industries have generated ambiguous results, and no studies have focused specifically on the relationship between CEO duality and financial performance of not-for-profit hospitals. Based on agency and stewardship theories, and considering that CEO duality's effects on firms' financial performance are contextually specific to each type of industry and dependent on certain industry conditions, the purpose of this quantitative study was to answer 3 research questions that examine the relationship between CEO duality, presence of physicians on governance board, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals. This study used multiple regression analyses of data of financial indicators from 146 U.S. not-for-profit hospitals selected from the Office of Statewide Health Planning and Development database of California, for the period from 2009 to 2012. The results of this study suggested CEO duality and presence of physicians on healthcare governance were not related to financial performance of not-for-profit hospitals. The outcomes of this study can promote positive social change by bringing awareness of appropriate healthcare governance structures that enhance organizational effectiveness and sustain hospitals' charitable missions of provision of community services and transformation of communities and society.

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Dedication

Most of all, I thank God for providing me the intelligence and energy that were so critical to the completion of my doctoral study.

With the most sincere appreciation, I have dedicated this work to my wife Cam Tu, who went beyond her duties to provide me with absolute support during my long years of completing this doctoral study. Without her total support, encouragement, and inspiration, I would definitely have not been able to reach where I am today. I also pay special tribute to my three children, Alan, Ashley, and Aidan, who have been patient with me and have understood that dad could not take them out for fun on the weekend because he had to study and complete assignments. I truly hope what I achieved for my own education will inspire my children to do the same for their education.

Acknowledgments

I would like to thank Dr. Jeffrey Prinster, whom I met during my first residency and became my mentor and chair when I reached the stage of writing the dissertation. Dr. Prinster was a great motivator who was always available when I needed help and inspired me to do my best. I felt I had a very close relationship with Dr. Prinster, who always started our dissertation work with remarks concerning the regard of my family. Dr. Prinster, you are not only a great professor but also a transformational speaker who motivates others to perform according to their potential.

I also owe my most sincere gratitude to Dr. Thomas Spencer who became my methodologist although he had been extremely busy teaching, mentoring, and chairing several dissertation committees of other students. I was fortunate to take two research courses with Dr. Spencer. I believe these two quantitative research courses equipped me with knowledge and skills to conduct quantitative research. I sincerely thank Dr. Spencer for trying to align his busy schedule to review my work promptly.

I am most grateful for the review, feedback, and comments made by Dr. Godwin Igein, who served as the University Research Reviewer. Dr. Godwin Igein's comments helped me built additional cohesive quality into my proposal and dissertation.

Of course, I do not forget that I received great help from Dr. Kevin Schwandt, who helped me with APA format and styling. I am forever grateful to family members, friends, and acquaintances who encouraged me to keep going and reach my destination.

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Chapter 1: Introduction to the Study

Introduction

Good corporate governance is integral to the growth and survival of modern corporations. Because of globalization, corporations now conduct business in all parts of the world, creating more challenges for governments to control and hold organizations accountable for their actions (Addullah & Valentine, 2009). However, the recent crises resulting from the global financial meltdown and numerous corporate scandals, which researchers linked to immoral management and poor governance, have triggered institutional investors, individual shareholders, regulatory entities, and other stakeholders to press harder for better corporate governance structures for publicly traded and private corporations. As part of an attempt to deter immoral management and corporate debacles, both professionals and academics have placed CEO duality and the decision whether or not to split the role of CEO/chairperson as central issues in the search for appropriate corporate governance structures (Tenello, 2011). According to Tenello (2011), at the beginning of 2010, the Securities and Exchange Commission (SEC) adopted policies to require public corporations to declare the structures of their board and provide explanations and circumstances for why they have opted to operate with their current corporate governance structures.

In a typical modern public corporation, the board of directors exists as a governance body as well as a mechanism to ensure the separation of ownership and control, facilitating effective monitoring and evaluation of performance processes independent from management and the execution of decisions. The board of directors

exists in a modern corporation to resolve or keep at bay issues associated with inherent conflicts of interest between managers and shareholders. Due to a diffuse base, owners, shareholders, or stakeholders do not or cannot directly monitor managers. Therefore, the board of directors is established to represent all stakeholders and exercise absolute fiduciary duty to manage a firm in the best interest of all stakeholders.

Depending on operational circumstances and business needs, some firms choose to operate with a governance structure of CEO duality, in which an executive holds both positions of CEO and chairperson of the board of directors. Meanwhile, other corporations may opt to fill the CEO and the board chairperson positions with two separate individuals, having CEOs reporting to chairpersons, who in turn work collaboratively with other board directors to oversee the performance of top executive teams. According to Monks and Minow (2008), based on data collected from the Corporate Library, about 1,800 out of the largest 3,300 publicly traded companies operate with a CEO duality structure.

Although boards of directors have the legal rights and the ultimate responsibility to oversee the management, in reality, the boards may face challenges in fulfilling their fiduciary duties due to their own limitations and the advantages of the management they are supposed to control and monitor. While the management team has expertise, specialized knowledge, control, and time to operate firms, the boards of directors, whose members are primarily comprised of independent directors, are limited in time and information to execute organizational objectives effectively (Finkelstein, Hambrick, & Cannella, 2009). Arguably, the effectiveness of the boards is reduced further when CEOs

who are also the chairpersons of the boards may attempt to play dominant roles and to diminish the effectiveness of board members (Gove & Junkunc, 2013).

Albeit slowly, the Federal government, the SEC, American stock exchanges, and shareholders have pressed public companies to split the dual CEO/chairperson role and to adopt a two-tier governance structure in order to enhance business transparency (Abels & Martelli, 2011). According to Abels and Martelli (2011), two-tier structures ensure independent CEOs manage corporations, while separate chairpersons control activities related to board functions, such as recruiting executives, seeking CEO succession, compensating executives, and conducting other traditional board activities. Noticeably, in the eyes of shareholders and stakeholders, the chairperson should be independent and not an employee of the company whose board she or he is heading, resulting in meaningful independence between the board of directors and the management.

Background of the Study

Under stewardship or administrative theory, executives and managers are viewed as trustworthy stewards who act for organizational goals rather than for their personal objectives, and the relationship between the shareholders and the management should be built upon trust, thus minimizing the costs of controlling and monitoring the actions of the management (Adbullah & Valentine, 2009). Accordingly, stewardship theorists have argued that CEO duality empowers CEOs to manage organizations efficiently with clear and unambiguous leadership, resulting in improved firm performance (Boyd, 1995; Kang & Zardkoohi, 2005; Nicholson & Kiel 2007). In the same vein, David, Schoorman, and Donaldson (1997) posited that CEO duality facilitates harmony between shareholders,

boards of directors, and managers, leading to a system that is more effective and efficient in reaching organizational objectives of profit maximization.

In contrast, agency theorists have argued that when acting as CEO and chairperson of a corporate board, a CEO may become too powerful and adversely influence the monitoring function of the board, thus potentially decreasing its effectiveness in governing the organization and evaluating the performance of the top executive team (Aguilera, Filatotchev, Gospel, & Jackson, 2008; Jensen & Meckling, 1976; Rechner & Dalton, 1991). According to Jensen and Meckling (1976), the relationship between shareholders and the management of a corporation is the relationship between principals and agents, and the agents will not always act in the best interests of the principals. Therefore, under the agency theory, there is a need to have a controlling and monitoring mechanism. Farma and Jensen (1983) argued that if the CEO is also the chairperson of the board, the CEO might dominate the decision process, thus diminishing the controlling and monitoring function of the board. According to Farma and Jensen, under CEO duality, corporations lack the true separation of decision control and decision management, which are integral functions of principals and agents, respectively.

Semadeni and Cannella (2012) claimed that for more than 2 decades, these opposing and divergent views between stewardship and agency theories about the effects of CEO duality to organizational performance have motivated researchers to conduct empirical studies to understand the real influences of CEO duality and organizational and board characteristics (e.g., board size and board independence). However, past academic

and professional empirical studies of the relationship between CEO duality and firm performance have generated inconsistent and unsettled results (Kang, 2005; Lawal, 2011; Shukeri, 2012; Tenello, 2011). Some researchers reported that there was no negative relationship between CEO duality and firm performance (Chugh, Meador, & Kumar, 2011; Pandya, 2011; Yang, Lu, & Li, 2011), or that CEO duality constrained board independence and aversively affected firm value and operating performance (Bliss, 2011; Harjto 2008). Nevertheless, Rechner and Dalton (1991) suggested firms with CEO and chairperson positions held by two individuals consistently outperform those with CEO and chairperson invested in one executive. In a recent review, Lawal (2012) examined several past studies of corporate performance and board dynamics in which CEO duality was included and suggested that past researchers have made some errors in being too focused on a single theory and using inappropriate statistical tools, consequently generating ambiguous findings.

Problem Statement

Considering the healthcare system's economic size and potential impacts on society and people, the importance of the role of governance in healthcare should not be overlooked. The Centers for Medicare and Medicaid Services (2012) reported that hospital spending in the U.S in 2012 represented one-third ($882.3 billion) of the total healthcare spending ($2.8 trillion). According to the American Hospital Association (2014), hospitals provide about 35% of employment in the healthcare industry. Furthermore, healthcare boards are increasingly charged with managing rising costs, continuously developing sciences and technologies, and addressing increasing demand

for patient safety, efficiency, effectiveness, ethical issues, and sustainability (Barnett, Perking, & Powell, 2001; Hamilton, 2008).

Although researchers have generated substantial work on the influences of roles, size, structure, composition of boards, and CEO duality on firm performance for more than 2 decades (Lawal, 2012; Krause, 2013), no researchers have sought specifically the relationship between CEO duality and financial performance of not-for-profit hospitals. Bennington (2010) asserted that researchers have not conducted specific studies on the correlation between strategies and board compositions, CEO duality, overall hospital performance, and nonprofit hospital board members' levels of involvement in strategic decisions. According to Bennington, while healthcare governance environments have changed drastically, professionals and academics have provided few suggestions for better models of healthcare boards.

Furthermore, the corporate governance model for private healthcare organizations might not be the appropriate corporate board model for not-for-profit hospitals due to their unique challenges (e.g., unpaid board members and absence of physicians on the boards) and total dependence on awarded commitment and support from external donors and benefactors (Howard & Seth-Purdie, 2005). Not-for-profit hospitals need effective healthcare governance boards and consistent support of external stakeholders in order to continue meeting their community service obligations.

Purpose of the Study

The purpose of this quantitative research was to investigate the relationship between CEO duality, presence of physicians on governance boards, hospital age,

hospital size, board size, and financial performance of not-for-profit U.S. hospitals. Considering the inclusiveness of the outcomes of past studies, the insufficient studies on the effects of governing boards on the performance of hospitals, the not-for-profit hospitals' unique organizational nature, and their dependence on awarded commitments, which make them face higher risks of failure, this study contributed by providing additional insights regarding the effects of CEO duality and clinical governance on the performance of organizations. Furthermore, as the SEC has started issuing regulations requiring firms to reveal and provide explanations for their chosen board models, this study provided critical information for not-for-profit healthcare organizations seeking a corporate board structure that might be most appropriate for their organizations.

Nature of the Study

Using a quantitative research approach, I analyzed available secondary data to investigate the relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and financial performance. Specifically, the goal of this study was to answer questions regarding the relationship between CEO duality, presence of physicians on governance boards, hospital age, hospital size, board size, and financial performance of not-for-profit hospitals. Using secondary data for this study was advantageous because of the massive availability of existing data pertaining to financial statements and corporate governance reported by not-for-profit organizations. The remainder of this chapter includes research questions, null hypotheses, associated alternative hypotheses, and dependent and independent variables.

Research Questions and Hypotheses

Research Question 1: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals?

$H1_0$: There was no significant statistical relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals.

$H1_a$: There was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals. CEO duality and presence of physicians on the governance board, hospital age, hospital size, and board size enhance total margin of not-for-profit hospitals.

Research Question 2: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals?

$H2_0$: There was no significant statistical relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals.

$H2_a$: There was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals. CEO duality and presence of

physicians on the governance board, hospital age, hospital size, and board size enhance operating margin of not-for-profit hospitals.

Research Question 3: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and free cash flow of not-for-profit hospitals?

$H3_0$: There was no significant statistical relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and free cash flow of not-for-profit hospitals.

$H3_a$: There was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals. CEO duality and presence of physicians on the governance board, hospital age, hospital size, and board size enhance free cash flow of not-for-profit hospitals.

Statistical Model

The premise of this study was to find if there was a relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and the financial indicators of not-for-profit hospitals. By design, this study involved the analysis of the relationship between several independent and dependent variables. Multiple regression was the most appropriate statistical model for understanding the relationship between several independent variables and dependent variables (Field, 2009). Therefore, I used the multiple regression model to test the hypotheses. Chapter 3 of the dissertation provides detailed descriptions of and rationale

for the method design, data, and statistical model used to test hypotheses based on the

research questions.

Independent and Dependent Variables

The research questions and the associated hypotheses were designed to investigate

the relationship between CEO duality, presence of physicians on governance boards,

hospital age, hospital size, board size, and financial performance of not-for-profit

hospitals. The independent variables for the three hypotheses and the three alternative

hypotheses were CEO duality, the presence of physicians on the governance board,

hospital age, hospital size, and board size. While the first independent variable was

categorical, the last four independent variables were continuous. The dependent variables

for the three hypotheses and the three alternative hypotheses were total margin, operating

margin, and free cash flow, respectively.

To calculate the independent variable, CEO duality, a value of 1 was assigned to

firms with CEO duality and a value of 0 was assigned to firms without CEO duality. The

second independent variable, the presence of physicians on governance boards, was

measured by assigning 1 to each physician present on the board. If no physician was

present on the board, a value of 0 was assigned. The hospital size was measured by the

logarithm of total assets of the hospital. The hospital age was derived from the logarithm

of the difference from the year of this study (2014) and the year of the hospital's

incorporation. The board size was measured as the number of directors of the governance

board. The same measurement of the independent variables applied to the three

hypotheses and the three alternative hypotheses.

For measuring the dependent variable in Hypothesis 1, the total margin value was calculated by dividing net income by total operating revenue. For the dependent variable in Hypothesis 2, the operating margin was measured by dividing the difference between total operating revenue and total operating expenses by the total operating revenues. The dependent variable, free cash flow, in Hypothesis 3 was estimated using annual growth rate of 7.3% reported by the American Hospital Association and adopting the formula used by Singh, Wheeler, and Roden (2012). More details of calculation of the free cash flow variable are explained in Chapter 3, the methodology of the study.

Theoretical Framework

A theoretical framework serves as a lens that guides and focuses a research study. As noted by Ennis (1999), a theoretical framework identifies and describes major elements and constructs of the research of interest. By elaborating on a theoretical framework, I hypothesized and explained the meanings of CEO duality and clinical governance as attributes of effective healthcare governance that affected the financial performance of not-for-profit hospitals. Specifically, as shown in Figure 1, agency and stewardship theories and clinical governance served as lenses to guide the focus of this study, which examined the relationship between CEO duality, presence of physicians on governance board, and financial performance of not-for-profit hospitals.

The agency theory explained the conflicts of interest inherently existing in corporations, creating the need to separate ownership and control in order to facilitate effective monitoring and control mechanisms of corporate board. The stewardship theory depicted intrinsic motivation of CEOs serving nonprofit organizations and the unitary

leadership inherited from CEO duality, justifying the rationale of CEO duality as an appropriate governance structure for not-for-profit hospitals. The clinical governance construct elaborated the advantages of having physicians, who often possess and acquire intensive clinical experiences, as members of governance boards of organizations in the healthcare sector.

As Figure 1 shows, the two components of healthcare governance of not-for-profits hospitals include CEO duality and physicians as board members. Financial performance measures include operating margin, total margin, and free cash flow. The multiple regression models designed for determining the relationships between variables of interest contain the components of healthcare governance board and financial measures. The identified variables used in the regression model were based on the literature related to studies of corporate governance, specifically the financial measures of not-for-profit organizations. Researchers and practitioners use operating margin, total margin, and free cash flow as the most common indicators for measuring financial performance of hospitals (Cleverley, Song, & Cleverley, 2010; Schuhmann, 2008). The operating margin of a hospital indicates the total operating revenue in comparison to its total operating expenses. If total operating revenue exceeds total operating expenses, the hospital operates with a profit. The total margin or total profit margin compares a hospital's net income against its total operating. Free cash flow shows the cash inflows and outflows rather than its accounting earnings and represents the amount of cash left over after undertaking the firm's operations and making all investments necessary to ensure the continuation of operation (Horngren, Foster, & Datar, 2006). The free cash

flow indicator shows the minimal survival strength of an organization (Schuhmann, 2008).

Healthcare scholars have addressed the corporate model and the philanthropic model as the governance models in healthcare sectors (Alenxander, Morlock, & Gifford, 1998). Table 1 illustrates the attributes of the corporate model and the philanthropic model that differentiate each model from one another. According to Alexander and Lee (2006), while hospitals with corporate models emphasize competition position and changes to enhance operational efficiency, market standing, and financial viability, hospitals operating with philanthropic models tend to focus primarily on preserving hospital assets and fiduciary obligations to the community. Morlock, Nathanson, and Alexander (1988) posited that for not-for-profit hospitals, governance boards perform mostly ceremonial functions, largely dedicating decision-making processes to CEOs and medical staff or a few active board members. There is a need for researchers to identify governance models that not-for-profit hospitals can adopt to enhance their effectiveness and performance.

Researchers have tested empirically and showed that healthcare organizations, specifically hospitals, with governance structures having the attributes characterizing a corporate model performed better than hospitals with philanthropic models in terms of quick responses to changing environmental conditions (Alexander, Lee, Weiner, & Ye, 2006). However, the impacts of the philanthropic model on the performance of hospitals have not been explored fully. According to Alexander and Lee (2006), different governing board configurations contribute to differences in the performance of not-for-

profit hospitals. Therefore, I expected the two components of healthcare governance of not-for-profits hospitals, CEO duality, and physicians as board members providing corporate expertise and clinical experience and bridging the gaps of different attributes and organizing principles between philanthropic and corporate models, resulting in an ideal governance model for not-for-profit hospitals.

The goal of this study was not to establish causation of financial performance because in order to determine all of the possible causes of firm performance, I would have had to include other variables such as business, social, and legal environments and many others factors. Identifying and accounting all potential variables that cause financial performance was beyond the scope of the study. Chapter 3 of this dissertation addresses an in-depth discussion of the research design, resources of data, financial measurement, statistical models, and statistical data analysis.
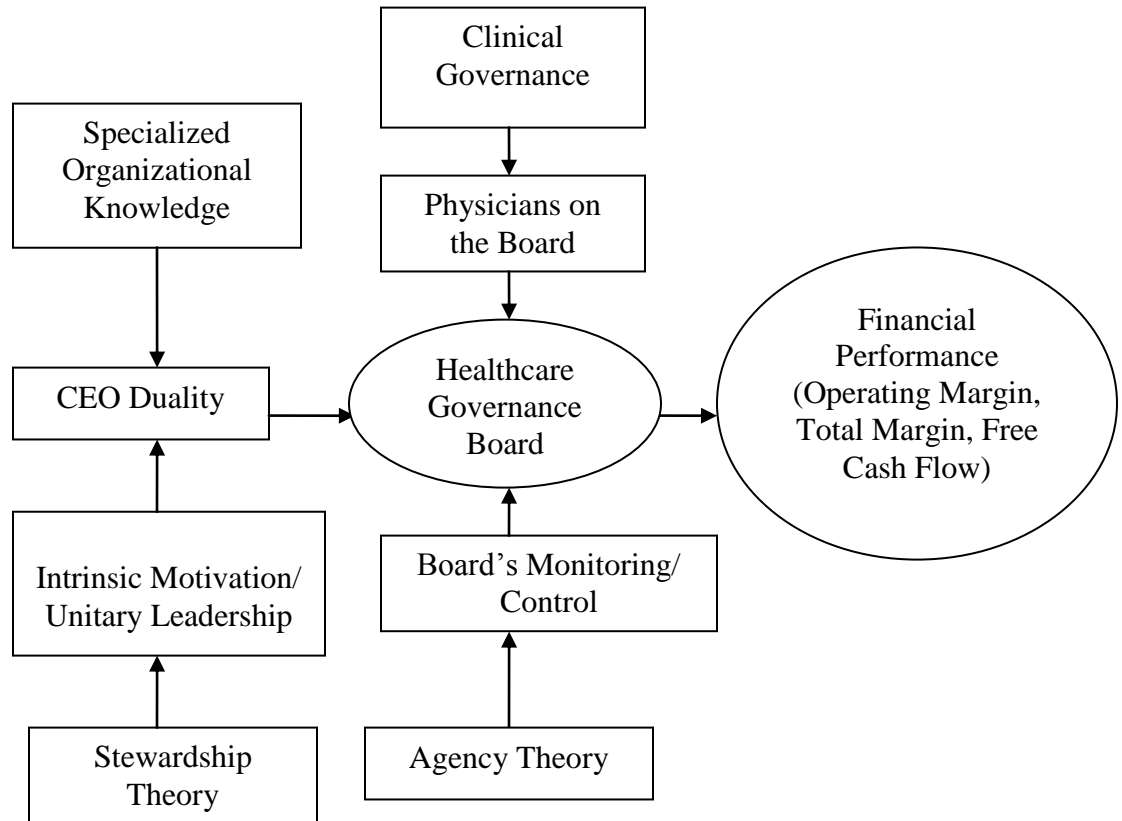
Figure 1. Theoretical framework.

Table 1

Philanthropic and Corporate Models of Hospital Governing Boards

Philanthropic model	Corporate model
Large board size	Small board size
Wide range of perspectives/backgrounds	Narrow, more focused perspectives/backgrounds
Small number of inside directors	Large number of inside directors
Little management participation on board	Active management participation on board
No formal management accountability to board	Direct management accountability to board
No limit to consecutive terms for board members	Limit to consecutive terms for board members
No compensations for board services	Compensation provided for board service
Emphasis on asset preservation	Emphasis on strategic activity

Note. Adapted from J. A. Alexander & S. Y. Lee (2006). Does governance matter? Board configuration and performance in not-for-profit hospitals. *Milbank Quarterly*, *84*(4), 733-758.

Definition of Terms

There are several terms used in this research study. The following terms are assigned with special operational definitions because of their relevance to the theoretical framework and this research study.

Board of directors: A body of appointed members who oversee the activities of an organization. Duties of the board include establishment of policies and objectives, selection and evaluation of CEO performance, securing of adequate financial resources, approval of fiscal budgets, design of compensation contract of company management, and responses to stakeholders on the performance of the organization.

Board monitoring/control: Activities of a board of directors in performing ongoing monitoring, internal control, and evaluation of executives or top management of corporations.

CEO duality: A governance structure or situation in which the CEO also holds the position of the chairperson of the board of directors.

Clinical governance: Systematic approach health care organizations that employ to maintain and improve the quality of patient care. Clinical governance parallels with corporate governance with respect to corporate accountability for clinical quality, leadership, organizational culture, and organizational quality structures (Wright, Malcolm, Barnett, & Hendry, 2001). Furthermore, clinical governance entails three attributes comprised of high standards of care quality, responsibility and accountability for patient care standards as well as a constant pursuit of improvement (Som, 2004).

Corporate governance: The system designed to direct and control a corporation. Through corporate governance structure, corporations design mechanisms for monitoring policies and decision making processes, and for responses to social, regulatory, and market environments. Through corporate governance, corporations pursue their objectives, align interests of involved parties, and distribute rights and responsibilities among stakeholders, such as boards of directors, managers, employees, shareholders, and others (Ballinger & Marcel, 2010).

Healthcare financial indicators: As noted by Schuhmannn (2008), 11 financial indicators of hospital financial performance include bed occupancy (percentage), average length of stay (days), operating margins (percentage), current ratio, cash on hands (days), accounts receivable (days), average payment period (days), inpatient gross revenue (percentage), outpatient gross avenue (percentage), contractual allowance write-off (percentage), and personnel expense (percentage of operating revenue). Researchers use data of these financial indicators to derive profit margin, total margin, and free cash flow for study of financial performance of healthcare organizations.

Immoral management: The management style that is devoid of ethical principles and conducts business activities and decisions considered opposite to ethical standards. Organizations practicing immoral management have short-term focus, often view and exploit employees as means of production, and have no concerns for the needs, rights, and expectations of their employees (Inoue & Aubrey, 2014).

Intrinsic motivation: A motivation in which individuals engage in activities that maintain their self-concepts (Egley, 2003). According to Egley (2003), certain

individuals will engage in intrinsically motivating activities for the interest and enjoyment associated with those activities rather than for the reward.

Not-for-profit hospitals: Hospitals that operate as nonprofit entities, for charitable purposes, and frequently as affiliations of religious denomination. In the United States, not-for-profit hospitals coexist with their counterparts, such as government owned public hospitals and privately owned for-profit hospitals, to deliver medical care (Singh, 2013).

Residual claimants: Individuals or agents, such as employees, suppliers, bondholders, and shareholders, who receive a residual amount after the corporation accounts all of the costs of productions or services (Brink, 2010).

Residual claims: The right of individuals or agents, such as employees, suppliers, bondholders, and shareholders, to the profit after the company has met all obligations of payment (Brink, 2010; Srinivasan & Phansalkar, 2003).

Residual risks: The remaining risks that arise after other known risks have been foreseen and eliminated. Residual risk is the term popularly used in disciplines such as economic and finance (Schneider & Valenti, 2011).

Specialized knowledge: Advanced level of knowledge and expertise in organizational processes and procedures. Individuals such as physicians, surgeons, engineers, lawyers, and others in very specialized fields often possess specialized knowledge.

Assumptions

There were several assumptions noted for this study:

1. The theoretical framework built on agency, stewardship, and identified constructs was appropriate for the study of the effects of CEO duality on firm performance of not-for-profit hospitals.

2. Clinical governance enhances the effectiveness of governance boards, which in turn affects financial performance.

3. Physicians possess knowledge of clinical governance.

4. CEO duality, presence of physicians on board, hospital size, hospital age, board size, and financial performance are logical for the testing of the hypotheses formulated for this study.

5. The list of not-for-profit hospitals randomly selected from databases containing governance and financial data of targeted organizations represented all not-for-profit hospitals in the State of California.

6. The secondary data, which were not originally collected for the study, used for the analysis of the current study were accurate and complete.

Limitations

Patton (2003) emphasized that when developing research plans, researchers should consider and anticipate limitations, thus addressing and providing details of steps undertaken to minimize the effects of the identified limitations. The primary limitation of this study is the use of secondary data, which were not originally collected for the study. The secondary data used for analysis in this study only approximate the kind of data intended for testing the hypotheses, and thus can potentially introduce errors to the conclusions and the generalization of the current study. Scientists often use the

triangulation of data to reduce the potential error and to enhance the accuracy of analysis and outcomes of the study (Patton, 2003). However, the triangulation of data was not feasible for this study. Therefore, I planned to collect financial and governance data of the not-for-profit hospitals listed in the Office of Statewide Health Planning and Development (OSHPD), which contained reliable and comprehensive data of healthcare organizations operating in the State of California. The conclusions and generalization of this study would be applied only to the not-for-profit hospitals in the State of California. Furthermore, due to the scope of the current study of the relationship between CEO duality and financial performance, some variables relevant to corporate governance constructs (i.e., organizational leverage, market environments, board independence, and organizational identification of CEO) may be missing from the research design or the analysis model. Future researchers can expand this study by exploring different variables using different constructs or assumptions.

Delimitations

The focus of the current study was CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and financial performance of not-for-profit hospitals. The sample size was 146. The data used for analysis were public records and financial reports filed and reported publicly by healthcare organizations. The financial reports, the board structures, and executives of not-for-profit hospitals were obtained from the OSHPD websites databases, which contain reports published and filed by healthcare organizations from multiple years. Specifically, the proxy statements and financial statements reflecting board structures and firms' performances from the 2009 to

2012 were the primarily targeted data used to compile statistical analysis using SPSS

software. The OSHPD database contains nonprofit, for-profit, and publically owned

healthcare organizations. The not-for-profit hospitals were selected from the OSHPD

database as the population for the study. The websites of not-for-profit hospital were

obtained the Healthcare ATLAS websites. The board size and hospital age information of

not-for-profit hospitals were acquired from the websites of each hospital. The outcomes

of this study should be applied only to not-for-profit hospitals in the State of California.

The findings of the study cannot be broadly used to explain circumstances surrounding

CEO duality, presence of physicians on governance boards, hospital size, hospital age,

board size, and financial performance of not-for-profit hospitals operating in other states

and other countries.

Significance of the Study

Past studies of corporate governance and financial performance of firms have not

focused on the healthcare industry. Moreover, the presence of physicians on governance

boards is relevant to healthcare governance because clinical governance is a critical part

of healthcare. This study is different from prior research because its outcomes may

contribute to the extant body of knowledge in the field regarding the implications of CEO

duality, the presence of physicians, hospital age, hospital size, and board size on the

financial performance of not-for-profit hospitals.

Unlike other industries in which clinical governance is not relevant to the

operation of business, the successful function of healthcare governance boards and the

transformation of healthcare organizations depend on the effectiveness of corporate and

clinical governance (Colin-Thome, 2013). Furthermore, results of past studies on CEO duality's effects on firms' financial performance have been ambiguous, and CEO duality's effects are contextually specific to each type of industry (Young et al., 2000) and dependent on certain industry conditions (Boyd, 1995). This study may generate findings on the effects of CEO duality and presence of physicians providing clinical governance, hospital age, hospital size, and board size, specifically as applied to not-for-profit hospitals.

Political and community leaders have increasingly pressed not-for-profit hospitals to enhance their effectiveness and performance for the benefit of communities (Owen, 2005). Not-for-profit hospitals are also faced with challenges associated with pay-for-performance initiatives strongly endorsed by the government (Lee, Chen, & Weiner, 2004). Moreover, although primarily applied to corporations, the Sarbanes-Oxley Act of 2002 has affected the external regulations and external oversight of governance board structures and conduct for various not-for-profit hospitals (Greene, 2005). These developments have highlighted the importance of having effective governance for not-for-profit organizations. The results of this study may assist not-for-profit hospitals or their administrators to implement appropriate and effective governance that would enhance their organizational performance and fulfillment of external regulation and oversight regulations.

Walden University defines positive social change as any transformation that would deliver positive outcomes (Laureate Education, n.d.). Walden students, in their pursuit of becoming scholars, apply ideas, strategies, and actions to promote the

development of individuals, communities, organizations, and institutions that would promote improvement of human and societal conditions (Laureate Education, n.d). The focus of this study is organizational governance, which is a core subject and application of the principles of social responsibility (ASQ & Manpower Professional, 2010). Corporate governance is a control mechanism that ensures the optimum use of the human, physical, and financial resources of an enterprise (Khiari, Karaa, & Omri, 2007). Good governance has a positive impact on corporate performance, particularly financial performance (Bhagat & Bolton, 2008). By examining the effects of CEO duality and exploring the impacts of the presence of physicians on governance boards on the financial performance of not-for-profit hospitals, this study may potentially generate results that help not-for-profit hospitals become successful and efficient with their governance and financial management. Therefore, the results of this study may help not-for-profit hospitals adopt and operate with an appropriate corporate governance structure, which would enhance their organizational effectiveness and allow them to continue their charitable missions of providing community services and transforming communities and society.

Summary and Transition

This chapter established that there was a deficiency in prior studies of the relationship of corporate governance and financial performance of not-for-profit hospitals. Despite their charitable mission and economic importance, the integral function of corporate governance to their survival and growth, the potential implication of CEO duality to financial performance, and the contextual and contingent nature of healthcare

organizations, researchers have not yet sought to understand the relationship between CEO duality, presence of physicians on governance boards, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals. Having a clear understanding of the implications of CEOs on financial performance could be critical to the governance process and operations for not-for-profit hospitals, thus possibly suggesting an appropriate corporate governance structure for not-for-profit hospitals that would contribute to the survival and continuation of delivering medical care of nonprofit hospitals. In the process, the purpose of this research was to seek the relationships between CEO duality, the presence of physicians on boards, hospital age, hospital size, board size, and the financial performance of not-for-profit hospitals.

The conceptual model guiding this study portrayed the aspect of specialized organizational knowledge of CEOs, informed by the theoretical framework of stewardship and agencies theories with respect to the intrinsic motivation and proper monitoring and control of CEO duality on the effectiveness of corporate board. As another dimension of the model, physicians' clinical experiences are critical to clinical governance and integral components of healthcare governance boards, necessitating the rationale for the presence of physicians as members of the board, contributing to the effectiveness of the board, and thus enhancing financial performance.

Despite of the limitations and delimitations associated with using secondary data for statistical analysis and the targeting of organizations that may not represent the entire population of organizations of interest, the assumptions and research questions justified a

study that may advance the existing knowledge of the field. The findings of this study

might offer an appropriate model of corporate governance board for nonprofit hospitals.

Chapter 2 of this dissertation reviews corporate governance theories,

contemporary research on corporate governance, CEO duality, and financial

performance. The healthcare governance board, clinical governance, financial

performance, and not-for-profit organizations are also reviewed. Chapter 3 lays out the

research design and methodology, details the selection and rationale of research

strategies, and presents the data analysis used to determine the relationship between CEO

duality, presence of physicians on governance boards, hospital size, hospital age, board

size, and financial performance of not-for-profit hospitals.

Chapter 2: Literature Review

In this chapter, I review prior studies on corporate governance and financial performance. The review proceeds from general to specific, discussing aspects of corporate governance and CEO duality with respect to organizational performance. The goal of this chapter is to provide an understanding of the link between corporate governance, specifically CEO duality, and firm performance**.** The literature contained in this review establishes the foundation for addressing the relationship between CEO duality and financial performance of not-for-profit healthcare organizations.

In the first section, I present the concept of separation of ownership and control, depicting basic reasons for controlling and monitoring the entrenchment of executive management groups. The second section addresses the concept of CEO duality. The third section shows corporate governance theories with an emphasis on the agency and stewardship theories dominantly used in studies related to corporate governance. The two theories constitute the theoretical framework of the study. The fourth section addresses major themes of studies of the relationship between corporate governance, specifically CEO duality, and financial performance of organizations across different industries. The fifth section indicates healthcare governance. The last section shows hospital financial indicators. This literature review assists in conveying the existing knowledge related to the field, the knowledge gap, and the focus of this research project.

The key terms for the research for literature materials included *CEO power*, *CEO duality*, *corporate governance*, *boards of directors*, *board dynamics*, *agency theory*, *stewardship theory*, *firm performance*, *return on equity*, *healthcare governance*, *clinical*

governance, *healthcare financial indicators*, and *not-for-profit hospitals*. Business, management, and health science databases within the Walden University library, such as Business Source Complete/Premier, ABI/Inform Complete, Emerald Management Journals, SAGE Premier, MEDLINE, and PubMed, provided the relevant research articles for the review. Google Scholar was also used in the search. The review includes a significant number of articles published within 5 years of the current study. However, because studies related to corporate governance and firm performance have spanned more than 2 decades (Krause, Semadeni, & Cannella, 2013), this literature includes reviews of articles that are over 5 years old in order to define theories of corporate governance and the history of the discipline. Furthermore, the literature review includes published books by authors popularly known in the field.

Separation of Ownership and Control

Fama and Jensen's (1983b) discussion of the separation of decision and risk bearing functions, or the separation of ownership and control, provided a foundational proposition for agency theory and monitoring mechanisms for decision making in large corporations, financial mutual organizations, professional partnerships, and nonprofit entities. According to Fama and Jensen, the organizational decision process includes initiation, ratification, implementation, and monitoring. In the initiation step, managers generate resource utilization and structure contractual proposals. The ratification step allows the organization to consider and choose decision initiatives. In the implementation step, managers execute the ratified decisions. Lastly, in the monitoring and rewarding phase, the organization conducts performance evaluations of the agents carrying out

decisions and implements rewards (Alchian, & Demsetz, 1972). Fama and Jensen

emphasized that the initiation and implementation steps represent the decision

management function, while the ratification and monitoring activities entail the decision

control function.

Depending on the nature or type of business, an organization chooses an

appropriate structure for its decision process. Proprietorships, small partnership, and

closed corporations may decide to have decision management and decision control

handled by one or a few agents because it is possible and efficient to deter agency

problems between decision makers and residual claimants by restricting residual claims

to the decision makers (Fama & Jensen, 1983a). However, in a complex organization,

because specific and critical information relevant to decision making often inherently

diffuse among several agents throughout an organization, it is difficult and less efficient

to have the residual claimants involved in both decision management and decision

control. To avoid this limitation, the organization may delegate decision making or

decision management to all agents of different organizational levels who have specific

knowledge (Fama, 1980). Regarding compensation establishment, organizations set up

incentive structures to reward agents who initiate and implement decisions and

compensate parties who represent principals to ratify and monitor decision management

functions.

Furthermore, in complex organizations, due to residual claims diffusing among

many agents, it is costly to involve all agents in decision control. Therefore, in complex

organizations, decision initiatives developed by agents at lower levels are delivered to

agents at higher levels for ratification and monitoring (Fama & Jensen, 1983b). The

board of directors, often comprised of decision agents who ideally do not gain financially

from their decisions, ensures the separation of the management and control of the most

important decisions of organizations (Clarson, 1995; Connelly & Limpaphayom, 2004;

Dalton & Dalton, 2005; Krause et al., 2013).

Farma and Jensen (1983b) emphasized that the separation of residual risk bearing

from decision management generally promotes decision systems in which decision

management functions are distinct from decision control functions. Furthermore, Fama

and Jensen argued that investing decision management and decision control in a few

agents leads to situations where these few agents are the primary residual claimants.

Therefore, the separation of decision management and decision control restricts or

minimizes the power of individual agents to expropriate the interests of residual

claimants, avoiding agency problems, which explains the rationale for CEO duality with

respect to firm performance.

CEO Duality

CEO duality refers to a governance structure in which one executive serves as the

CEO and the chairperson of the corporate board of directors of the company (Abebe,

Angriawan, & Liu, 2010; Chien, 2008; Krause et al., 2013; Lawal, 2012). The key factor

of CEO duality in relation to corporate governance and firm performance is the notion of

CEO power. According to Mueller and Barker (1997), a powerful CEO can command a

strong and unambiguous organizational leadership, which could result in good

organizational performance. However, while some concentration of CEO power (e.g.,

CEO duality) positively affected firms' values and operating performance (Carty, 2012),

too much CEO power (e.g., CEO plurality, defined as a CEO who is also chairperson and

a member of compensation committees, audit committees, or nominating committees) has

brought negative effects on operations and values of organizations (Harjoto, 2008). Even

CEO duality alone can negatively affect firm performance and the independence of

director board (Amba, 2013; Bliss, 2011; Brawn & Sharma, 2007).

Splitting roles of CEO and chairperson within public companies has occurred in

the United States. Based on the 2008 data, approximately 61% of CEOs of U.S. firms

held the positions of CEO and chairperson, and 26% held the positions of CEO,

chairperson, and president (Abels & Martelli, 2011). However, according to Abels and

Martelli (2011), data from 2010 showed there was a decline in CEO duality as companies

moved away from that governance structure in an attempt to improve transparency and

corporate independence. Furthermore, there was a decline in the number of firms

retaining their retired CEOs as chairpersons of their boards of directors. Importantly,

Abels and Martelli emphasized that some industries accepted CEO duality more than

others did due to the complexities of their business environments. The following section

addresses corporate governance theories that underlie the philosophy and implications of

CEO duality.

Corporate Governance Theories

Dubey (2008) explained that the literature in social science includes two types:

conceptual and empirical. While the conceptual type concerns concepts and theories, an

empirical literature review includes reports on past studies that are similar to the

proposed research. Manmu, Yasser, and Rahman (2013) posited that multiple theories,

such as agency, stakeholder, stewardship, and institutional theories, deliver a better

understanding of corporate governance in the context of CEO duality and firm

performance. To review in detail the findings of past studies on the relationship between

CEO duality and firm performance, the discussion now turns to descriptions of the

agency and the stewardship theories prominently used by past and current researchers

studying CEO duality and firm performance.

Agency Theory

Research studies in CEO duality have largely been associated with agency theory,

which mainly focuses on the different functions of agents and principals as well as

agency costs. While agents (e.g., executives and high-level managers) hired by principals

(e.g., owners, shareholders, or other stakeholders) perform day-to-day operations, boards

of directors represent principals to serve as governance bodies, overseeing CEOs and

other executives. Specifically, directors monitor and evaluate management performance

of the CEO and the executives of an organization (Hillman & Dalziel, 2003; Shen, 2005).

In approaching studies arguing that CEO duality is not a desired option for

effective corporate governance, researchers used agency theory to establish the view that

separating the CEO and corporate board chairperson positions enhances the board

function (Aguilera et al., 2008). According Manmu et al. (2013), a CEO who is also the

chairperson of the board could potentially undermine the effectiveness of the monitoring

and control mechanism of the corporate board, whose job as a governance body is to

oversee the CEO and the executive team. Agency theorists have argued that executives

tend to act opportunistically for their own benefits rather than those of the principals (Drucker, 1954; Levy, 1981; Rechner & Dalton, 1991). Therefore, a powerful CEO might establish goals that vary from those of shareholders, causing agency costs (Jensen, 1976).

To reduce agency costs and to ensure board independence, Mamum et al. (2013) posited that organizations established controlling and monitoring mechanisms in the form of proper and effective board structures to help deter CEOs and executives from pursuing their own interests at the expense of the organizations and the immediate stakeholders. Specifically, as agency theorists would argue, corporations attempt to avoid or reduce agency problems by having a corporate governance structure with one position for CEO and a separate position for chairperson of the corporate board (Farma & Jensen, 1983; Levy, 1981; Rechner & Dalton, 1991). In addition, firms with good corporate governance protect shareholder interests by establishing suitable incentive schemes for CEOs, which could help align the interests of the CEOs with those of the shareholders (Donalson & Davis, 1991). Therefore, according to agency theory, CEO duality is negatively associated with firm performance because it could incur agency costs and impede board independence. Reversely, CEO nonduality, in which one individual holds the CEO position while a different one serves as the chairperson of the board, would be the desirable form because, theoretically, CEO nonduality governance structures could facilitate board independence and minimize agency costs.

Stewardship Theory

Contrary to the argument of agency theorists, stewardship theorists have asserted the combination of power inherited from being the CEO and chairperson of the board

(i.e., CEO duality) provides the CEO with ultimate autonomy and the unity of command

to make decisions that serve the best interests of the organizations in a timely manner

(Nicholson & Kiel, 2007). For instance, with the knowledge of an insider, CEO duality

offers the CEO a clear direction and faster responses to external events critical to the

success of an organization (Boyd, 1995).

Stewardship theorists view corporate managers as motivating individuals whose

interests align with the objectives of corporations (Davis, Schoorman, & Donalson,

1997). Resonating with the perspective of McGregor (1960), who through the theory of Y

suggested people are self-directed individuals, corporate managers work hard to meet

corporate goals. Similarly, analogous to Maslow's (1954) hierarchy of human needs,

steward theorists have argued that in trying to be good stewards, people achieve self-

actualization, social standing, and recognition. Arguably, placing the control and

monitoring mechanisms with executives would discourage self-motivating individuals

from being productive and proactive in maximizing benefits for the principals (Argyris,

1981). Therefore, considering the adverse effects of separating the CEO/chairperson

position and the associated control and monitoring, under stewardship theory, CEO

duality is good for firm performance.

Reconciliation of Agency and Stewardship Perspectives

Despite the opposing propositions of the two theories, agency and stewardship

theories can work complementarily. Recently, Boivie, Lange, McDonald, and Westphal

(2011) focused on psychological factors that could mitigate agency problems in corporate

control and attempted to reconcile and integrate the agency and stewardship perspectives

on organizational behaviors. Specifically, Boivie et al. sought empirical evidence of a positive relationship between CEO organizational identification and the decoupling of firm performance from CEO pay or perquisites and demonstrated how internal psychological factors, such as organizational identification, could influence the agency costs.

Boivie et al. (2011) argued that a CEO who identifies strongly with her or his organization tends to find it difficult to justify personal enrichment to himself or herself when firms are not performing well, and CEOs with higher levels of organizational identification would be least likely to incur expensive perquisites. Furthermore, Boivie et al. asserted that board control is less necessary with CEOs who have higher organizational identification, and high organizational identification would moderate the negative effects of board independence on the decoupling of high CEO pay and generous perquisites from firm performance. Boivie et al.'s data analysis suggested that high levels of CEO organizational identification related to less subsequent decoupling of CEO cash compensation from firm performance and less subsequent use of perquisites. In addition, CEO organizational identification moderated the tendency for board independence to reduce CEOs' self-serving activities. The findings of Boivie et al.'s study seemed to suggest that, even in CEO duality structures, CEOs who a have high levels of organizational identification act in the best interests of their organizations and do not always pursue narrow self-interests. The organizational identification of CEOs helps integrate the agency perspectives with those of stewardship with respect to corporate control and organizational behaviors.

Importantly, the findings of Boivie et al.'s (2011) study also indicated that neither agency theory nor stewardship theory alone could fully explain the influence of CEO duality on organizational performance. Lawal (2012) advised that researchers studying board dynamics and CEO duality should not rely on a singular theory. Recently, some researchers in the field have advocated for using a multiple theories paradigm or other theories in studies of CEO duality performance implications (Krause & Semadeni, 2013; Lawal, 2012; Manmu et al., 2013). In the next section, I elaborate on the implications of the multiple theories approach.

Multiple Theories Approach

Some researchers have pressed for a better research method using various theories comprised of agency theory, stakeholder theory, stewardship theory, and institutional theory in order to achieve a more comprehensive understanding of the relationship between corporate board performance, CEO duality, and firm performance. For instance, by comparing and contrasting each theory with respect to CEO duality and the relationship between companies and business environments and stakeholders, Manmu et al. (2013) attempted to depict how a multiple theories model would help researchers understand the effects of corporate governance on corporate performance. Agency theorists argued for managing and monitoring roles of the board on the CEO to eradicate agency costs associated with opportunistic activities of the CEO (Boyd, 1995; Jensen, 1993; Watts & Zimmerman, 1978). In contrast, stewardship theorists opposed, arguing that restraining monitoring and controlling mechanisms could motivate executives and empower them with the autonomy to make decisions in the best interests of companies

(Block, 1996; Davis & Donaldson, 1997; Donaldson & Davis, 1988; Peggy & Hugh, 2001).

The stakeholder theory is also concerned with corporate governance mechanisms in the context of the rights to information about organizational operation. As important entities such as shareholders, employees, customers, lenders, suppliers, governments, local charities, and various interest groups could help companies become successful, they have the rights to information about how executives govern their businesses with respect to transparency and societal responsibility (Freeman, 2004; Friedman & Miles, 2006; Robert, 1992). Regarding the application of the institutional theory to corporate governance, due to high levels of regulation, companies strive to meet certain corporate governance standards to establish their business legitimacy to operate in markets (Kathleen, 1988; Krishna, 2005; Shleifer & Vishny, 1997). Manmu et al. (2013) emphasized that one theory could not explain effective corporate governance, and when combined, agency theory depicts the management and principals while stakeholder and institutional theories address social relationships, regulations, and enforcement.

Major Themes in Studies of CEO Duality

With foundational propositions, theoretical approaches, and the theories dominantly used in studies of the relationship between corporate governance, CEO duality, and firm performance introduced, this section addresses past research studies and their findings. The findings of extant literature related to CEO duality mainly include five major categories comprised of the consequences, the antecedents, and the firm performance implications of CEO duality, board dependence, and organizational slack.

The review outlines these major themes of the effects of CEO duality, contextualizing the focus of the current study.

Consequences of CEO Duality

Regarding the consequences of CEO duality with respect to succession effects, Krause et al. (2013) recognized that (a) CEO duality increases power and comes with a corresponding increase in accountability; (b) a more powerful CEO is more accountable for firm performance; and (c) separating CEO and chairperson does not often lead to more effective monitoring. Secondly, regarding the consequences of CEO duality on entrenchment activity, boards with CEO duality tend to adopt antitakeover measures to undermine the value and the voting power of a potential takeover (Sundaramurthy, 1996). In addition, boards with CEO duality often devote less effort on monitoring activities, and organizational factors such poor performance and CEO duality moderated this effect (Bierman, 2010).

Antecedents of CEO Duality

Researchers examining antecedents of CEO duality with respect to the role of firm performance in determining how firms choose duality suggested that, historically, strong firm performance often precedes consolidation of CEO and chairperson positions, while poor firm performance often leads to the splitting of the top roles (Harrison, Torres, & Kukalis, 1988). In terms of the antecedents of governance characteristics, according to Harrison et al. (1988), when the board has already possessed a high level of independence, the independence of chairperson might not benefit organization more. Additionally, when CEO power is high, vigilant boards may choose a nonduality

structure. Reversely, when CEO power is low, the CEO may need more supports rather than monitoring, and thus a vigilant board would adopt a duality structure (Findelstein & D' Aveni, 1994). Furthermore, when monitoring activities appear to be more costly, especially under conditions of strategic complexity, boards tend to reduce monitoring and prefer the separation of CEO and chair positions simply as a means of accessing information rather than for monitoring (Krause et al., 2013).

With respect to the individual-level antecedents, CEO tenure and age play a role in a firm's decision to adopt CEO duality (Linck, Netter, & Yang, 2008). Specifically, according to Linck et al. (2008), firms often consolidate the two top positions as the CEO ages. Furthermore, in apprentice separations, in which the former CEO remains chair, and demotion separations, in which the CEO still remains in that role but relinquishes the chair position to a director of the board, CEOs tended to be oldest, and middle-aged, respectively, whereas boards use demotion separation to give young CEOs who are not performing optimally a second chance.

Firm Performance

Past research of the relationship between CEO duality and firm performance showed no concrete direct and simple relationship (Krause et al., 2013; Lawal, 2013). Rechner and Dalton (1989), the first researchers in the field, began the study of the relationship between CEO duality and firm performance by analyzing Fortune 500 companies. When measuring firm performance using accounting-based measures of return on assets (ROA), return on equity (ROE), and return on investment (ROI), Rechner and Dalton concluded that firms without CEO duality outperformed those with CEO

duality. In contrast, when examining the mean shareholder return of U.S corporations in various industries, Donaldson and Davis (1991) found that the shareholder return for firms with CEO duality was significantly greater than that for those without CEO duality. Nevertheless, Daily and Dalton (1992, 1993) found CEO duality had no effect on firm performance in either accounting or market-based measures for small firms.

Given the conflicting evidence of the relationship between CEO duality and firm performance, researchers studying CEO duality focused on the organizational outcomes immediately after announcements of changes in the leadership structure of the boards. Baliga, Moyer, and Rao (1996) studied the performance effects of CEO duality on three circumstances: reactions of the market in response to changes in board leadership structure, companies' operating performance after changes in board leadership structure, and the market values gained by firms with CEO duality and firms without CEO duality. Baliga et al. analyzed a sample of Fortune 500 firms and found no support for a relationship between CEO duality and firm performance.

Attempting to identify patterns of findings in prior studies related to board composition, leadership structure, and company performance, Dalton, Ellstrand, and Johnson (1998) performed a meta-analysis. Dalton et al. noticed that different performance measures used in studies did sometimes change the relationships between variables. According to Dalton el al., while the market-based measures gave slightly positive correlation between CEO duality and performance, the accounting-based measures suggested a slightly negative correlation.

Researchers continued CEO duality scholarship by examining its effects on interim CEO succession and strategic change. Arguing that in a CEO succession a firm might face risks of top management dissolution, Ballinger and Marcel (2010) argued that CEO duality fosters top management unity. Ballinger and Marcel's analysis of S&P 500 firms supported this argument. Quigley and Hambrick (2012) investigated the effects of CEO duality on strategic change in firms going through CEO succession in which former CEOs were retained as board chairs. Based on an analysis of U.S high technology companies, Quigley and Hambrick concluded that firms that retained their CEOs as board chairs following succession events faced obstacles with strategic change, negatively affecting their ultimate performance.

Contributing to the literature on CEO duality's effects on firm performance following CEO succession, Krause and Semadeni (2013) focused on three types of splitting the CEO and corporate board chairperson positions: apprentice, departure, and demotion. Krause and Semadeni explained that, in apprentice separation, the former CEO remains chair, whereas in departure separation, the CEO/chair leaves the company, and the company installs two separate individuals to hold the CEO and board chair positions. In demotion separation, the former CEO remains CEO but relinquishes the corporate chairperson position to another director of the board. Based on their analysis of S&P 500 companies, Krause and Semadeni asserted that the performance benefits achieved from the separation depend on the circumstances in which the separation happened. Specifically, according to Krause and Semadeni, demotion separation positively influences firms' future performance when past performance declined. Furthermore,

according to Krause and Semadeni, the search for the link between CEO duality and firm performance is far from finished and should continue, and CEO duality's performance implications are conditional and complex.

Board Independence

Bliss (2011) investigated whether CEO duality undermined or compromised the role of boards of directors in higher quality audits. Bliss argued that independent directors on the board would most likely demand more audit work, resulting in higher quality audits, and there would be an association between the audit fee pricing and the proposition of an independent board. Secondly, Bliss theorized that CEO duality would moderate the higher quality audits demanded by independent boards of firms with CEO duality, and the positive association between audit fee pricing and the proposition of independent directors would be weaker in firms with CEO duality. Furthermore, audit firms tended to perceive larger boards as risky clients, thus requiring greater audit efforts. These assumptions set the foundations for Bliss's examination of the association between audit fee pricing and the proposition of independent directors of boards of firms with or without CEO duality leadership structures.

Bliss's (2011) findings suggested that companies with more independent boards demand higher audit quality and efforts and that this association is only present in companies without CEO duality, suggesting that CEO duality constrains board independence. The findings of this study also supported the proposition against CEO duality, as CEO duality might compromise the effectiveness and the independence of the board of directors.

Organizational Slack and Firm Performance

Past researchers explored direct relationships between CEO duality and organizational slack and firm performance. Specifically, Peng (2010) examined how CEO duality and organizational slack affect the performance of China's state-owned enterprises (SOEs) and privately-owned enterprises (POEs). Peng defined absorbed slack and unabsorbed slack as underutilized capacity and uncommitted cash flows and untapped lines of credit, respectively. According to Peng, the integral link between how boards monitored and controlled the CEO and how the CEO tapped into organizational unabsorbed slack to operate could influence firm performance.

Peng (2010) argued that, while CEO duality might increase the speed of making decisions and reduce potential conflicts at the top, CEOs in CEO duality organizations could use organizational slack for their benefit at the expenses of the organizations. Specifically, due to inherent agency problem associated with CEO duality, Peng proposed that in China's SOEs, CEO duality reduced the positive relationship between organizational slack and firm performance, as the CEO of SOEs would tend to use organizational slack for their own benefit at the expense of the company. Furthermore, due to the nature of SOEs being passive in decision making, having CEO duality for making fast decisions might not be necessary or applicable. Contrary to China's SEOs, Peng argued that POEs were more proactive regarding the turbulent markets, and CEO duality enabled CEOs to make faster decisions in strategically utilizing organizational unabsorbed slack, thus positively influencing firm performance.

The main findings implied that organizational slack was positively related to firm performance. However, while CEO duality was positively related to firm performance in POEs, it was negatively related to firm performance in SOEs. The practical implication is that when judging whether CEO duality or organizational slack are negative or positive for companies, Peng (2010) suggested practitioners should contemplate and approach organizational slack and CEO duality with an integrative and contingent perspective.

A Contingency Approach

Boyd (1995) used the framework of the agency and stewardship theories to investigate the relationship between CEO duality and performance. Specifically, Boyd applied three dimensions of environmental uncertainty (munificence, dynamism, and complexity) to examine these factors in relation to CEO duality. Boyd explained munificence depicts the abundance of resources in the environment while dynamism and complexity are concerned with environmental volatility and inequalities among competitors, respectively. Boyd concluded that CEO duality has positive effects on firm performance in some industry conditions and negative effects on other conditions. Specifically, CEO duality was good for companies operating in conditions of resource scarcity and high complexity. The practical implication of Boyd's study is that when considering the separation of the positions of CEO and chairperson, firms need to consider the merit of CEO duality versus the potential abuses associated with agency problems and recognize that, under some circumstances, CEO duality could help firm performance.

Following Boyd's (1995) lead in examining the relationship between CEO duality and firm performance in various conditions or circumstances, Braun and Sharma (2007) examined empirically the relationship between CEO duality and firm performance of family controlled public firms (FCPFs). Braun and Sharma assumed that the separation of CEO and corporate board chairperson would provide an important check in making sure that a single executive did not dominate decision-making processes, and the nondual structure suggested the controlling family's awareness of the noncontrolling shareholders' interests. Furthermore, an FCPF with family members owning large shares and a duality governance structure might hurt firm performance due to possible extreme entrenchment by the family. Grounded by the perspectives of stewardship theorists, Braun and Sharma posited that family members already act like corporate stewards, protecting companies and making decisions in the best interests of the organizations. Furthermore, the combination of high level of ownership of the family operating the firm and a CEO duality structure would stimulate the family to commit to organizational effectiveness and commitment.

However, Braun and Sharma's (2007) analysis suggested the separation or the unification of CEO and board chair did not have any impact on firm performance. Nevertheless, family ownership moderated the relationship between CEO duality and firm performance. Specifically, the results indicated that family ownership influences the shareholder return in firms without CEO duality structures, but not in their counterparts, suggesting that the separation of the CEO and board chair position is more effective when the family is not entrenched through high ownership. The results of Braun and Sharma's

(2007) study reinforced the contingent aspect of the relationship between CEO duality and firm performance.

Elsayed (2010) demonstrated the determination of the appropriateness of the board leadership structure depends on some contextual variables, such as firm size, age, past performance, and ownership structure, and that the CEO nonduality structure (the agency theory) and the CEO duality structure (the stewardship theory) were valid in certain conditions. According to Elsayed, prior poor financial performance correlated positively with CEO duality, and as firms became bigger, the probability that firms would split the CEO and chairperson position increased. Secondly, old firms tended to adopt the CEO duality structure. In terms of the effects of ownership, managers increased their ownership to enhance their voting power and to initiate and press for decisions that served their interests and weakened the independence and monitoring power of the board. Thirdly, considering the perspectives of agency theory, Elsayed theorized that higher employee ownership would serve as an effective insider control mechanism in a CEO duality situation, and institutional investors, with their knowledge and ability to hire professionals, are more likely to challenge and control firm performance. Furthermore, to counteract their inability to control management, private shareholders leaned toward the CEO nonduality structure. Moreover, in the developing market, where corporate governance was not well established and monitoring would incur more costs, foreign investors with modest investments preferred CEO nonduality as an ideal governance structure.

The outcomes of Elsayed's (2010) examination of the relationship between CEO duality and firm factors including size, age, managerial, individual, institutional, and foreign investors empirically suggested that board leadership structure varies with firm size, age, and ownership structure. While CEO duality correlated negatively with firm size, it was positively associated with firm age. Old firms tended to adopt CEO duality, as they preferred fast response to environmental changes or unified decision-making processes as part of efforts to adapt. Moreover, the preference of board leadership structure varied with the type of ownership. Specifically, insider shareholders seemed to prefer CEO duality structures while institutional, private, and foreign holders sought CEO nonduality structures. Similar to the notion of the reconciliation of the opposing agency and stewardship theories, Elsayed emphasized that both agency and stewardship theories could be complementary to each other under certain business conditions,

Researchers also studied CEO duality with firms going through restructuring. Cashen (2011) focused on the effect of board leadership in firms that decided to execute a portfolio restructuring due to poor performance. Cashen suggested that firms adopted or moved away from CEO duality structures as corrective actions to align the interests of shareholders. Specifically, Cashen explored whether portfolio-restructuring firms exhibited a reduction in CEO duality in the postrestructuring period. Cashen's findings supported the proposition that restructuring firms did change governance structures along with other restructurings in order to enhance organizational performance. Based on Cashen's analysis, in nonrestructuring firms, poor performance did not have any impact on CEO duality. However, for high and low performance categories, restructuring firms

eventually chose nonduality structures, while the restructuring firms in the moderately performing group exhibited duality structures. Seemingly, companies took these adoptive actions as corrective means to align the interests of shareholders. Noticeably, Cashen suggested the proposition that firms would need to adopt nonduality governance structures to reflect socially valid and desired trends.

Industry Contingency

Expanding on the contingency approach of Boyd (1995), Young, Stedham, and Beekun (2000) focused on corporate governance and contexts specific to each industry. In this study, Young et al. (2000) used multiple theoretical frameworks to study corporate governance issues in hospitals. In addition to using agency perspectives stressing the need of a control procedure to align interests of the principles (owners) and the agents (CEO), and to avoid having a CEO as a chairperson, which could potentially lead to problems of conflicts of interest, Young et al. also deployed the approach of institutional perspective. From an institutional view, organizations sometimes are under constant pressure to conform to accepted norms, and thus establish corporate boards to serve a linkage role and to maintain a legitimate relationship with the external environment. Young et al. concluded that board independence, competition, and managed care penetration are important factors that influence boards to adopt CEO formal evaluation. Young et al. emphasized that organizations should not attempt to improve governance through policies that aim to increase board independence. Instead, organizations should consider broader contextual factors that are specific to each industry.

The proposition that the effects of corporate governance vary contingently depending on the type of industry resonates with the work of Brickley, Cole, and Jarrell (1997). Based on the costs associated with the separation of the CEO and chairperson titles, Brickley et al. (1997) asserted no leadership structure obviously worked best for all industries, and perhaps the optimal leadership structure depended on the economic circumstances facing the firm. Based on the descriptive and regression analysis of the characteristics and effects of leadership structures of large U.S. companies, Brickley et al. noted that no firms in the samples of interest had an independent outsider as chairperson, and after splitting the titles during CEO transitions periods, most firms reverted to CEO duality structures over time. The findings confounded the interpretations of past studies that compared firm performance with different leadership structures. Furthermore, Brickley et al. concluded that in firms that separated the titles, the chairperson often had detailed knowledge of the company and often owned high stock ownership. In addition, firms used the titles of chairperson, CEO, and president as incentive in their succession plans for CEOs. In contrast to the conclusions of previous studies investigating link between CEO duality and firm performance, the researchers found no evidence that CEO duality did not have a direct relationship with inferior accounting and market returns.

Researchers have extensively studied the relationship between CEO duality and firm performance across industries in the past two decades. However, as reviewed in this section, past empirical results have not been conclusive (Kang, 2005; Lawal, 2011; Shukeri, 2012). One of the gaps in extant literature in this field is that prior researchers have examined both small and big corporations operating in different industries, but none

of these researchers has focused specifically on for-profit or not-for-profit organizations in the healthcare sector. Considering that CEO duality and firm performance are contextually specific to each type of industry (Boyd, 1995; Cashen, 2011; Elsayed, 2010; Young et al., 2000), further study of the effects of CEO duality on the financial performance of healthcare organizations could potentially deliver some additional contributions to the existing knowledge of corporate governance research. The discussion now turns to healthcare governance.

Healthcare Governance

American hospital boards face greater expectations of management accountability and carry the ultimate responsibility for the quality of care provided by their organizations and for overall performance (Alexander, Weiner, & Bogue, 2001; Chambers, 2012). The roles of hospital boards range from establishing and initiating policy, mission, and strategic direction to interacting with key external constituencies, organizing fundraising activities, monitoring hospitals, and evaluating management performance (Lee, Alexander, & Wang, 2007). Importantly, Flanning and Power (2008) claimed healthcare organizations manage both corporate governance and clinical governance, making healthcare governance complex. The following section discusses the essential aspects of clinical governance in hospital boards.

Clinical Governance

Brennan and Flynn (2013) defined clinical governance as standards, structures, and systems that healthcare organizations establish and apply to create a culture and to govern clinical activities. According to Brennan and Flynn, as a subset of clinical

governance, clinical accountability and responsibility bestowed on healthcare

organizations involve the monitoring and oversight of clinical activities, including

regulation, audit, assurance, and compliance by boards of directors, regulators, and both

external and internal auditors. Brennan and Flynn emphasized clinical governance is an

evolving concept in the healthcare sector, and to the extent that patient safety and high

quality care have become focal points of state and federal regulations, the responsibility

and the accountability of a typical hospital board continue to increase. As a result, both

for-profit and not-for-profit hospital boards rely on governance education and best

practices to assist their members in meeting their fiduciary responsibilities.

Regulatory entities, communities, and various constituencies have argued that the

governance and management of clinical governance improve delivery of clinical practice,

and thus deliver better healthcare quality (Goodman, 2002; Thomas, 2002). The Joint

Commission on Accreditation of Healthcare Organization (JCAHO) has made it clear

that hospital boards are responsible for overseeing clinical quality (Jonas, Kovner, &

Knickman, 2008). Faced with these high expectations and demands, boards of healthcare

organizations have embraced clinical governance as an added responsibility. Hacker,

Liford, and Jordan (1999) and Stanton (2006) asserted that healthcare boards now

consider clinical governance as important as corporate governance because it promotes

and ensures an integrated approach to good practices, improved quality, and most of all

connects administrative and clinical elements, providing a comprehensive framework for

clinical accountability (Brennan & Flynn, 2013; Onion, 2000).

Ultimately, healthcare boards pursue effective clinical governance in order to meet patients' high expectations about healthcare quality and safety, to assist in collaborative efforts and efficiency among clinical teams, to increase job satisfaction for healthcare professionals, to improve clinical outcomes, and to reduce significantly medical errors (Gerada & Cullen, 2004). However, in order to achieve effective clinical governance, a healthcare board needs to be a collaborative effort between boards, CEOs, and executives, as well as leaders of the physicians and other licensed independent practitioners (Brennan, & Flynn, 2013). The latter leader group uniquely exists in healthcare organizations, but not in other business sectors, and enhances the organization's ability to achieve its goals by providing technical knowledge, clinical experiences, and decision making with respect to safety and high quality care. Therefore, considering licensed medical staff or physicians as members of the governing body in healthcare sector addresses the unique challenges faced by the leadership of healthcare organizations.

Governance in Not-For-Profit Hospitals

Governance is a critical matter for both for-profit and not-for-profit organizations in healthcare sector. However, by some measures, not-for-profit hospitals appear to encounter more challenges with respect to governance than their for-profit counterparts do. For instance, recruiting volunteer board members with relevant expertise to assist not-for-profit hospitals manage rapid changes in technology, shifting government policies, intense market competition, and burdensome liability exposure can be difficult (Roberts & Connors, 1998). According to Robert and Connors (1998), ineffective governance

leads to poor and detrimental decisions within an organization, resulting in bad investment or ill-planned program initiatives, and consequentially creating financial troubles or other problems sometimes difficult to recognize and correct for a hospital. Essentially, the boards of not-for-profit hospitals have to ensure that the management measures risks prudently in order for the organization to survive in the long run to continue its mission. Strategically, boards focus on long-term strategies and survival by proactively anticipating several years in advance the issues and changes that may arise in the marketplace.

The board of a not-for-profit hospital has greater involvement in operational and program management issues because the board must balance its stated mission with the need to build financial resources, ensuring the hospital's long-term viability (Steane & Christie, 2001). Moreover, unlike a for-profit organization, a not-for-profit hospital does not have to meet owners' demands for a return on their equity investment. However, a not-for-profit hospital has to satisfy mandates from both internal and external constituencies, including physicians admitting patients to the hospital, private insurers, government payers including Medicare and Medicaid, regulators, and bondholders.

In the healthcare sector, members of an effective board must have divergent skills, including knowledge specific to the healthcare industry and clinical experience. Boards also need to understand quality and safety issues, third-party reimbursement methodologies, and accounting, legal, and business and investment management. Furthermore, to meet challenges adequately, governing boards of healthcare delivery organizations and their committees also require candid and vital information to flow

efficiently from the management. The following section presents the arguments for having doctors on boards and using CEO duality structures for not-for-profit hospitals.

Doctors on Boards

Skills for board members entail expertise and qualifications in corporate management, finance, audit, law, human resources, capital management, strategic information technology, risk management, and clinical governance. Other important qualification factors include: (a) integrity and the capacity to understand the needs of the community and patients; (b) knowledge of the policy context of health, governance processes, strategic thinking, planning, and leadership skills; and (c) experience in high-level decision making and in effective consultation and collaboration with various stakeholders.

The question is whether doctors should be on healthcare boards. Considering that an effective healthcare board needs to be able to execute both corporate and clinical governance, and especially to have capacity to understand and reflect the views of the community and users of health services, it seems that the absence of physicians on the healthcare board would limit or minimize the board's effectiveness. Eekloo, Delsie, and Vleugels (2007) reported that European healthcare professionals have shown vital board functions with their clinical expertise. Bass (2008), while acknowledging the possibility of the issues of conflict of interest and voting powers, asserted that doctors on boards are important and indispensable assets for good governance in healthcare. A survey conducted by the United States Center for Healthcare Governance concluded that 67% of CEO and board chairs indicated that they brought physicians to the board because of their

roles in the organizations, and 42% did so because of their expertise in clinical quality

(Bennington, 2010). In the United States, healthcare boards tend to have 2-3 doctors as

board members (Orlikoff & Totten, 2006). If having a doctor as a board director can

enhance the leadership and governance of health services, then it can be hypothesized

that having doctors as healthcare board members is positively related with financial

performance of the not-for-profit hospitals.

CEO Duality in Healthcare Governance

Under agency theory, powerful chief executive officers and executive

management tend to dominate boards, and knowledgeable and independent directors are

necessary to counterbalance the power of management (Stevenson & Radin, 2009).

However, despite that much regulation has focused on the importance of independent

directors for corporations, American hospital governance does not appear to have great

concern with interlocking directorships, or a number of other practices such as CEO

duality, that agency theory would view as unacceptable (Chambers, 2012).

Proponents of the managerial stakeholder and resource-dependency theories view

directors as independent monitors with consultative functions, using knowledge achieved

from interacting with a social network (Chamber, 2012). Directors bring human capital to

firms, assist organizations in reducing dependencies on external resources or seek

external resources that could benefit the firms, decrease transaction costs, establish

credibility, expand boundary span, and advise the management with strategies and

initiatives that ultimately add to firm performance (Shortell, 1989; Umbdenstock,

Hageman, & Amundson, 1990; Wall, Gerada, Conlon, Ombler-Spain, & Warner, 2006).

According to Wall et al.(2006), the prohibition on CEOs or senior executives on boards did not align with approaches and purposes of boards in healthcare organizations. Considering that CEOs or executives may possesses specialized knowledge valuable to a healthcare organization, having executives on boards potentially results in greater sharing of information and opportunities and reduces coordination costs (Brickley, Coles, & Jarrell, 1997).

In addition to being primarily responsible for providing oversight, advice, and guidance to CEOs, as well as monitoring and, if necessary, disciplining CEOs, boards have become strategic partners working in collaboration with management (Anderson, Melanson, & Maly, 2007). In healthcare, different relationships between CEOs and board members have emerged (Bevan, 2010; Bjork, 2006). According to Bjork (2006), leadership in healthcare has become collaborative, involving an overlap between leadership and governance and between leadership and management. Therefore, I expected a positive relationship between CEO duality and financial performance of not-for-profit hospitals.

Hospital Financial Indicators

Researchers have used consistently identical performance measures to study financial performance of for-profit and not-for-profit hospitals. For instance, Joseph, Thomas, and Robert (2009) applied ratios derived from total operating revenue and other financial information related to assets, liabilities, and patient admissions to study hospital costs and efficiency with respect to hospital size and ownership. Similarly, in a study surveying healthcare executives on key performance measures healthcare leaders

considered critical, Love, Revere, and Black (2008) concluded that healthcare decision makers measure operating profit margin, cash on hand, charity care, net profit margin, bad debt expenses, and days in accounts receivable. Specifically, Prince (1991) asserted healthcare management groups paid attention to financial measures such as net patient revenue, other operating revenue, operating expenses, operating margin, and nonoperating expenses to access financial outcomes of not-for-profit community hospitals.

Important governmental entities also used similar categories of healthcare financial data to evaluate states' not-for-profit health care facilities. For instance, the OSHPD supports the State of California healthcare delivery system (oshpd.ca.gov, 2011). OSHPD delivers various services designed to increase healthcare accessibility within California. Relevantly, OSHPD mitigates capital needs for not-for-profit healthcare facilities in California by providing loan insurance to these organizations. Regarding financial measurement, OSHPD uses two financial ratios comprised of operating margin and total margin, which it considers the most important key indicators to measure a hospital's financial performance.

The operating margin. The operating margin, most commonly used in measuring a hospital's financial performance, compares a hospital's total operating revenue against its total operating expenses (Cleverley, Song, & Cleverley, 2010). If total operating revenue exceeds total operating expenses, the hospital operates with a profit. Conversely, when a hospital achieves total operating revenue less than total operating expenses, it experiences a financial loss. Dividing the difference between total operating

revenue and total operating expenses by the total operating revenues gives the operating

margin. Total operating revenue is comprised of the sum of net patient revenue (e.g.,

payments received for routine nursing care, emergency services, surgery services, lab

tests, etc.) and other operating revenue such as cafeteria sales, refunds on purchases,

vending machine commissions, parking lot revenue, et cetera. Total operating expenses

include expenses associated with running the hospital, such as salaries, employee

benefits, purchased services, supplies, professional fees, depreciation, rentals, interest,

and insurance. However, total operating expenses do not include bad debts or income

taxes.

The total margin. The operating margin involves revenue derived from

operation, the total margin, often called total profit margin, and is considered the most

popular indicator of hospital profitability (Cleverley et al., 2010). It compares a hospital's

net income against its total operating revenue. The total margin includes all other sources

of revenue and expenses that are not associated with operations, such as nonoperating

revenues (e.g., investment income, unrestricted contribution, medical office building, gift

shop revenue, etc.) and nonoperating expenses (e.g., office building expenses, gift shop

expenses, loss of sale of hospital properties, etc.), income tax, and any extraordinary

items. Dividing net income by total operating revenue generates the total margin. Net

income is the excess of revenue over expenses. When hospitals report substantial

amounts of nonoperating revenue or expense, the total margin differs significantly from

the operating margin.

Free cash flow. Free cash flow shows an organization's cash inflow and outflow rather than its accounting earnings. Importantly, free cash flow represents the amount of cash left over after undertaking the firm's operations and making all investments necessary to ensure its continuous operation (Horngren et al., 2006). Calculating the change in net assets plus interest and noncash expenses minus investments in fixed assets and net working capital generates free cash flow.

Not-For-Profit Hospitals' Equity

Profitable hospitals retain and reinvest their earnings to gain higher growth in equity capital. For not-for-profit hospitals, retaining earnings represents the most important source of equity. While their counterparts raise equity externally by issuing shares, not-for-profit hospitals have to rely on internal operations to build equity and supplement growing equity efforts with profitable nonoperating activities, such as raising funds through donations and gifts and managing their financial investments (Reiter & Song, 2011).

Most recently, Singh, Wheeler, and Roden (2012) attempted to explore whether effective revenue cycle management helped not-for-profit hospitals improve their profitability, strengthen their ability to grow equity, and thus remain financially viable in the long term. Using fixed effects regression analysis assessing four key financial indicators, namely operating margin, total profit margin, free cash flow, and the value of the hospital's equity capital, Singh et al. found a strong relationship between revenue cycle management and profitability and equity capital of 1,397 bond-issuing not-for-profit U.S. hospitals.

As previously mentioned, the goal of this study was to determine the relationship between CEO duality and the financial performance of not-for-profit hospitals, as well as the link between healthcare governance boards with doctors as board members and the financial performance of not-for-profit hospitals. Logistics regression has been used in board leadership and firm performance (Darus, 2011; Elssayed, 2010; Gill & Mathur, 2011; Harjoto, 2008; Peng et al., 2010). The study used a statistical model of estimated logistic regression to seek the relationships between the financial performance of not-for-profit hospitals (the dependent variables) and the five independent variables (CEO duality, presence of physicians on hospital boards, hospital age, hospital size, and board size).

Summary

This literature review focused on corporate governance theories with emphasis on the two integral opposing theories, namely agency theory and stewardship theory, which are critical to studies of the relationship between CEO duality and firm performance. The literature review also elaborated the proposed integration of the agency and stewardship theories that would assist in deriving inclusive results of studies related to CEO duality and firm performance. Considering that the contextual and contingent aspects of the healthcare industry, specifically not-for-profit hospitals, the review of uniqueness of healthcare governance provides the rationale for the study of CEO duality's effects on not-for-profit hospitals. Specifically the review covered separation of ownership and control, CEO duality, corporate governance theories, major themes in studies of CEO duality, healthcare governance, and hospital financial indicators.

Chapter 3: Research Method

Not-for-profit hospitals face great challenges of competition position and changes related to operational efficiency, market standing, and financial viability (Alexander & Lee, 2006). According to Owen (2005), political and community leaders have increasingly pressed not-for-profit hospitals to enhance their effectiveness and performance for community benefits. Pay-for-performance initiatives strongly passed and supported by the government have encouraged not-for-profit hospitals to improve their performance (Lee, Chen, & Weiner, 2004). Furthermore, the Sarbanes-Oxley Act, enacted in 2002 by the U.S. Congress to enforce better regulations of corporations, has also been made relevant to the practices of external regulations and the oversight of governance boards and conduct of various not-for-profit organizations (Greene, 2005). These developments have provided the rationale for designing effective governance for not-for-profit organizations. Therefore, there is a need for researchers to identify governance models that not-for-profit hospitals can adopt to enhance their effectiveness and performance.

As the literature review of this study indicated, the research problem addressed in this study was that no researchers have sought specifically the relationship between CEO duality, presence of physicians on governance boards, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals of the healthcare sector. The objective was to examine the effects of CEO duality, presence of physicians on governance boards, hospital age, hospital size, and board size on the financial performance of not-for-profit hospitals. The outcomes might potentially generate results

specific for not-for-profit hospitals and their administrators who may seek an appropriate corporate governance structure that would enhance their organizational effectiveness.

The three research questions, three hypotheses, along with three associated hypotheses were as follows:

Research Question 1: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals?

H1$_0$: There was no significant statistical relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals.

H1$_a$: There was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals. CEO duality and presence of physicians on the governance board, hospital age, hospital size, and board size enhance total margin of not-for-profit hospitals.

Research Question 2: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals?

H2$_0$: There was no significant statistical relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals.

H2$_a$: There was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals. CEO duality, presence of physicians on the governance board, hospital age, hospital size, and board size enhance operating margin of not-for-profit hospitals.

Research Question 3: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and free cash flow of not-for-profit hospitals?

H3$_0$: There was no significant statistical relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and free cash flow of not-for-profit hospitals.

H3$_a$: There was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals. CEO duality, presence of physicians on the governance board, hospital age, hospital size, and board size enhance free cash flow of not-for-profit hospitals.

In the following sections, I explain the research methodology to test the hypotheses. In the first section, I outline the research design and approach as well as the justification for using this design and approach, which was derived logically from the problem statement of the study. The second section addresses the setting and sampling, which comprise components of (a) the population from which the targeted not-for-profit hospitals were drawn, and (b) the sampling method frame including eligibility criteria for

selecting organizations for the study, the sampling frame, the sample size, and the rationale for the sample size. The instrumentation section shows the instruments that have been used to measure variables in past studies examining the relationship between corporate governance and financial performance and the definitions and explanations of the calculation of dependent and independent variables. In the fourth section, I present details of data collection, which include secondary data collected from both public and private databases. The fifth section involves the data analysis of the study using a multiple regression model. In the sixth section, I elaborate on the hypothesis formulation. The last two sections of the chapter include explanations of the protection of the selected organizations and the dissemination of findings.

Research Design and Approach

This quantitative research included a multiple regression analysis approach using secondary data as input variables to determine whether there was a significant relationship between CEO duality, the presence of physicians on governance boards, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals. In the following section, I describe the research design and the justification for selecting it.

Description of Research Design

The objective was to examine the relationship between several independent and dependent variables. The multiple regression model was as follows:

$$Y_i = b_o + b_1X_{1i} + b_2X_{2i} + \ldots + b_nX_{ni} + \varepsilon_i$$

The subscript *i* refers to the hospital number and ε denotes the error. Y_i is the outcome or dependent variable, b_0 is intercept, b_1 is the coefficient of the predictor of X_1, b_2 is the coefficient of the predictor X_2, and b_n is the coefficient of the *n*th predictor X_n.

Justification

Because the goal of this study was to examine the relationship between independent and dependent variables, I determined that the quantitative approach was the most appropriate research method. Creswell (2009) suggested that a qualitative research approach is designed for exploratory study and used in research in which variables and theories are not known. The theories of agency, stewardship, and clinical governance as well as variables such as CEO duality and financial indicators, which were used as the theoretical framework for the study, are well known. Furthermore, Creswell asserted that quantitative approaches best address problems in situations in which researchers want to understand what variables or factors influence an outcome. Therefore, for this study, the quantitative approach was more appropriate than the qualitative approach to determine whether there was a significant relationship between CEO duality, the presence of physicians on governance boards, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals.

Although quantitative approaches have limitations, such as possible assumptions that may interfere with outcomes, its several advantages outweighed its limitations. As I investigated the relationships among CEO duality, the presence of physicians on governance boards, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals, quantitative research allows for the use of rich archived corporate

and financial data available from public databases and annual proxy statements of

targeted not-for-profit hospitals. The use of the quantitative research method and archived

data allows unbiased approaches and statistical IBM SPPS software for data analysis,

which are rigors that qualitative approaches lack, making the qualitative approach less

suitable for the objective of this study. Most importantly, the large sampling of not-for-

hospitals contained in the databases of OSHPD helps achieve reliable outcomes and

generalize the findings of the study to larger population (Anderson, Prause, & Silver,

2011).

Researchers have used combinations of qualitative and quantitative approaches

for CEO duality studies. Brickley and Jarrell (1997) used qualitative research to advocate

for combining the positions of the CEO and chairperson of the board by addressing the

costs associated with the separation of CEO duality leadership structures. Brickley and

Jarrell expanded the study with the quantitative method, using regression analysis of

characteristics and effects of leadership structures of large U.S. firms to show the

efficiency of combining the title of CEO and chairperson of the board. However, the

limitation of Brickley and Jarrell's study lies within the qualitative component of the

study. Specifically, Brickley and Jarrell's study did not qualitatively demonstrate the

costs and benefits of dual leadership in order to provide clear and definitive evidence that

combining titles would provide a better leadership structure. Compared with a

quantitative approach, qualitative design is viewed to be less scientific and less rigorous

(Meadow, 2003). Furthermore, findings of studies using qualitative approaches are (a)

limited in the context of generalizations to a broader population, (b) not replicable, (c)

unable to test hypotheses, and (d) influenced by the researcher's personal biases and idiosyncrasies (Anderson, 2010). Therefore, the mixed method, which is comprised of both qualitative and quantitative approaches, is not appropriate for this study.

In quantitative approaches, researchers have used cross-sectional designs, quasi-experimental designs, preexperimental designs, and secondary data in social sciences (Frankfort-Nachmias & Nachmias, 2008; Shadish, Cook, & Campbell, 2002). According to Frankfort-Nachmias and Nachmias (2008), cross-sectional designs are used predominantly in studies using surveys. The quasi-experimental designs are similar to the cross-sectional designs except that they usually involve more than one sample and are appropriate in studies examining participants or events over extended periods of time. The preexperimental designs are ideal for case study and for studies where experimentation is impossible. Because the survey method and case study were not applicable to this study, the cross-sectional, quasi-experimental, and preexperimental designs were not selected as the research designs for this study.

Researchers use secondary data or archived data collected by others and used in various disciplines to make comparisons and derive interferences concerning events or issues or to advance prior studies (Singleton & Straits, 2005). Secondary data include public records and private records (Frankfort-Nachmias & Nachmias, 2008). The public records include actuarial records (e.g., records of birth, deaths, marriages, and divorces), legislative and other official records, governmental documents, and mass media. The private records include autobiographies, diaries, letters, essays, and the like (Frankfort-Nachmias & Nachmias, 2008).

According to Singleton and Straits (2005), the advantages of using secondary data are that secondary data are available in vast quantities, previously collected and used by others from within the field or from various fields, and much less expensive to obtain than collecting primary data. Frankfort-Nachmias and Nachmias (2008) emphasized that some research problems can be investigated using only secondary data. From a methodological point of view, secondary data allow replications and advancement of past studies and increase sample sizes and representativeness, increasing the validity of the findings and encompassing generalizations. Researchers have examined the effects of CEO duality on financial performance of firms across different industries. This study advanced past related research studies in that the goal was to examine specifically the relationship between CEO duality, presence of physicians on governance boards, and financial performance of not-for-profit hospitals. Therefore, research based on secondary data was determined to be the most appropriate method for this study.

Researchers have used multiple regression models in studies of the relationship between CEO duality and firm performance. For instance, Boyd (1995) used regression analysis to study the effects of CEO duality on the return on investment of firms operating in three business environmental conditions, such as munificence (abundance of resources), dynamism (environmental volatility), and complexity (inequalities among competitors). Amba (2013) used ordinary least square regression analysis to study the relationship between a CEO who is a member or the chairperson of the board and firm performance (e.g., return on assets, return on equity, and assets turnover). Bliss (2011) employed multiple regression analysis to measure audit fee as a dependent variable and

the level of independence of board of directors along with other control variables of financial indicators to determine how CEO duality constrains and affects board independence. Using a regression model, Braun and Sharma (2007) measured ownership levels, shareholder return, and other control variables pertaining to firm characteristics to conclude whether CEOs should also be the chairs of boards of family-controlled public firms. Cashen (2011) used logistic regression analysis to examine the relationship between CEO duality and return of assets along with moderating variables of time, restructuring, or nonrestructuring to explore whether portfolio-restructuring firms exhibit a decrease in CEO duality in the postrestructuring period.

Because the goal of this study was to understand the relationship between several independent and dependent variables, the multiple regression model was chosen over other statistical models, including analysis of variance (ANOVA), correlation analysis, bivariate linear regression analysis, and nonparametric analysis. While the ANOVA test evaluates whether the group means on the dependent variables differ significantly among each other, the nonparametric tests are useful for measurement of nominal and ordinal levels (Field, 2009; Green & Salkind, 2011). Furthermore, according to Field, Green, and Salkind (2011), correlation analysis does not distinguish between independent and dependent variables. Both correlation analysis and bivariate linear regression analysis examine only two variables, a dependent variable and an independent variable, making correlation analysis and bivariate linear analysis less ideal for testing the hypotheses.

Setting and Sampling

In this section, I discuss the population from which the targeted not-for-profit hospitals were drawn, the sampling method and the associated sampling frame that were used in the selection of targeted organizations, the sample size, and the rationale for the sample size. Furthermore, I illustrate the eligibility criteria that were used to select organizations for the study and the characteristics of the selected not-for-profit hospitals.

Target Population

The target population for this study was the healthcare organizations that were listed in the OSHPD, which comprehensively contains nonprofit, for-profit, and publicly owned hospitals in the State of California. The not-for-profit hospitals were drawn from the target population. Angst and Agarwal (2009) and Young et al. (2000) have used OSHPD to study the adoption of electronic health records and the adoption of CEO performance evaluation processes of healthcare organizations, respectively. Information about governance and board information of the targeted hospitals were retrieved from the website of each hospital and the Healthcare Atlas website.

Sampling Method and Frame

Researchers often use partial information to provide inferences or generalizations of their studies, and conclusions based on the outcomes of current research are often generalized to a population rather than the sample being studied (Frankfort-Nachmias & Nachmias, 2008). According to Frankfort-Nachmias and Nachmias (2008), because generalizations are not always possible based on collecting data from all organizations being studied, this study and data analysis relied on a smaller sample and made

inferences based on the results for the larger population of healthcare organizations of interest. In order to arrive at proper inferences, the sampling strategy appropriate for the research plan was the one that ensured that errors commonly found in sampling frames, such as incomplete frames, clusters of elements, and blank foreign elements, which often lead to results' inaccuracy (Frankfort-Nachmias & Nachmias, 2008, p. 165), were avoided.

The nonprobability sampling or convenience sampling in which targeted organizations are chosen based on convenience and availability was not an appropriate sampling method for this study. Instead, the simple random sampling strategy, as part of probability sampling, was appropriate for the study and its outcomes' generalizability, as the random probability sampling could provide a relatively accurate estimation of the probability that each sampling hospital was included in the samples being investigated. Furthermore, in the context of sampling frame, the number of targeted not-for-profit hospitals was potentially large; thus, using the simple random sampling strategy was more appropriate. Lastly, because systematic sampling, stratified sample, and cluster sample strategies involve selecting samples based on interval, sizes, and levels of clusters, these characteristics of sampling were not analytical considerations of the current study, making these probability sampling techniques irrelevant strategies.

Screening and eligibility criteria. To narrow the scope of the study to a more manageable number of target organizations and to select a representative sample for the population, I performed a screening process and a simple random process from the resulting population. Specifically, in the screening process, I screened the data to select

not-for-profit hospitals from the list containing both not-for-profit and for-profit hospitals from the OSHPD database. Then, I performed an additional screening to choose not-for-profit hospitals that had complete data appropriate for testing the proposed model using the following characteristics:

- Corporate governance structure information listed in reports for the period of 2009-2012, such CEO duality or nonCEO duality, and presence or absence of physicians on boards.
- Reports of financial data, such as total margin, operating margin, and cash free flow in financial reports for the period of 2009-2012.
- Market value of at least $50 million.

The assumption was that large not-for-profit hospitals, defined in this study as organizations having market value of $50 million or more, were more likely to consider and adopt corporate governance structures than were small and newly established organizations.

Sampling frame. Regarding the sampling process, I used a simple random process to draw the final targeted not-for-profit hospitals from the population generated from separating the not-for-profit hospitals from their counterparts within the OSHPD database and by selecting the not-for-profit hospitals that have enough data for testing the proposed model. Probability sampling is more scientifically acceptable than nonprobability sampling (Frankfort-Nachmias & Nachmias, 2008). According to Frankfort-Nachmias and Nachmias (2008), compared to systematic sampling, stratified sampling, and cluster sampling, probability sampling allows researchers to ensure that

every organization among the population has equal and known probability to be included

in the sampling for analysis. Probability sampling helps avoid the possibility of

introducing systematic biases in the selection procedure (Babbie, 2005; Singleton &

Strait, 2005; Frankfort-Nachmias & Nachmias, 2008). Furthermore, using probability

sampling indicates the selected organizations represent the target population, thereby

making it possible to generalize research findings to the entire population with

confidence.

      Sample size and rationale. According to Hektner, Smidt, and Csikszentmihalyi

(2006), the sample size determination is dependent on the standard error value and on the

confident interval width established by the researcher. However, Sherperis (2010)

explained that researchers could rely on statistical power to determine the likelihood that

results obtained from statistical tests are statistically significant and truly different.

Furthermore, Burkholder (2009) suggested one way to compute an effect size is to use

past related research. Zhang, Lu, and Li (2011) conducted a similar study to examine the

effects of CEO duality on customer satisfaction. The effect size was reported to be 0.14

(Zhang, Lu, & Li, 2011, p.291), which is a medium effect, suggesting that it may require

a medium sample size to detect the effect. Using an Alpha level of .05 and the accepted

value for power or the probability that a test will detect a real relationship (Burkholder,

2009) of .80, I determined the sample size of this study should be 107. The general

formula for determining the sample size is $104 + k$ in a multiple regression test (Field,

2009, p.222), where k is the number of predictors. Therefore, the calculated sample size

was consistent. However, I decided to choose the sample size of 146. To randomly select

the samples, I assigned consecutive numbers to each not-for-profit hospital in the preselected list in a spreadsheet, and then randomly choose 146 hospitals by using the RAND function in Microsoft Excel, which returned an evenly distributed random number.

Instrumentation

There are no generally accepted CEO duality mechanisms, and rigorous empirical research directed at CEO duality and corporate and clinical governance is nonexistent. Consequently, numerous definitions and categorizations have been developed depending the purpose and interests of researchers. Therefore, several instruments have been used in studies in the past that measured CEO duality, corporate and clinical governance, and financial performance.

Measurement

As noted by Frankfort-Nachmias and Nachmias (2008), measurement is linked to operational definitions. For the study of the effects of CEO duality and presence of physicians on governance boards on financial performance, CEO duality, the presence of physicians on the governance board, and the financial performance are operationally defined. The three levels of measurement that are important to the study include nominal, interval, and ratio levels.

First, the nominal level, the lowest level of measurement, which classifies objects or events into categories possessing qualitative characteristics, was the measurement used to link the operational definition of the independent variables, which were CEO duality and physicians on governance boards. The nominal level of measurement was used to

classify firms into two categories, with a value of 1 for firms with CEO duality or a value of 0 for firms without CEO duality. The presence of physicians on governance boards was measured by assigning 1 to each physician present on the board. If no physician was present on the board, a value of 0 was assigned.

When calculating and analyzing data that contain properties of fixed and equal units and values that possess natural, absolute, and fixed zero points, measurement at interval and ratio levels should be used (Frankfort-Nachmias & Nachmias, 2008, p. 147). Therefore, the measurement of the dependent variables, including financial indicators, such as operating margin, total margin, and free cash flow, involved the measurement of the interval and ratio levels. Similarly, the calculation of the remaining variables, such as hospital size, hospital age, and board size, involved the measurement of the interval and ratio levels.

When variables exhibit some relation to each other (e.g., higher, greater, more desired, and more difficult), they can be measured at the ordinal level. However, none of the identified independent and dependent variables for this study possesses the relational characteristics of the ordinal level. Therefore, measurement of the ordinal level was not appropriate for this study.

Measurement validity. To ensure that a change in the dependent variables is a result of a genuine change in the independent variables, researchers have to establish the measurement validity, which includes content, empirical, and construct validity (Frankfort-Nachmias & Nachimas 2008). The content validity means the measurement instrument covers all the attributes and nothing relevant to the measurement is left out. Of

the content validity, the sampling validity is the primary concern. This study accounted

for cases or samples representing the targeted population of not-for-profit hospitals and

selected organizations with corporate governance structures and financial performance

that met criteria set by the research design addressed earlier in this research proposal.

Regarding empirical validity of a measurement instrument, researchers are often

concerned with the relationship between a measuring instrument and the measured

outcomes (Frankfort-Nachmias & Nachimas, 2008, p.150). Some researchers may

compare outcomes generated by the study undertaken with results generated in similar

past studies in the field, while others model measurement instruments used by other

previous related study. This study measured the financial outcomes, such as total margin,

operating margin, and free cash flow, which are the common financial indicators of

hospitals (Joseph, Thomas, & Robert, 2009; Love, Revenue, & Black, 2008; Prince,

1991). Therefore, with respect to empirical validity, the identified measurement

instrument for the study did address the validity aspect that the instrument should

measure what it is intended to measure.

The construct validity was not a concern of validity measurement for this study.

The construct validity is a concern only when questionnaires are administered to

participants (Frankfort-Nachmias & Nachimas, 2008, p.153). Questionnaires were not

used for this study. The analysis of this study used secondary data of financial indicators

and corporate board information for generating descriptive statistics and testing a

multiple regression model. Moreover, Zhang, Lu, and Li (2011), in a study of the

relationship between corporate governance and customer satisfaction, and Kang and

Zardkoohi (2005), in a study of board leadership and firm performance, did not address the establishment of construct validity of measurement instruments because these studies did not employ questionnaires. Therefore, it was reasonable theoretically to claim that the construct validity concern was not applicable for the study undertaken.

Measurement reliability. Each measurement for a study contains "a true component and an error component" (Frankfort-Nachmias & Nachimas, 2008, p.154), and variable errors are mostly associated with factors, for instance monetary incentives and instruction ambiguity that influence the response of participants filling questionnaires (Tabachnick & Fidell, 2007). This study did not employ questionnaires to seek responses from participants. Therefore, measurement validity due to influencing factors aforementioned was not a concern.

Researchers address measurement reliability by examining the variance called reliability measure, which indicates the extent of the errors of the measurement used in research studies (Shultz & Whitney, 2005). Reliability measures range from 0 to 1, with value 0 or 1 suggesting the measurement contains all variable errors or no variable errors at all, respectively. Other research studies on the effects of boards, ownership, and CEO duality on firm performance and other associated indicators of organizational effectiveness, such as studies by Brookman and Thriste (2009), Dahya, McConnell, and Travlos (2002), Fee and Hadlock (2004), Kang and Zardkooki (2005), Pandya (2011), and Rechner and Dalton (1991), used secondary data to test hypotheses. In these studies, to address measurement reliability, the authors examined the multicollinearity analysis to determine whether two or more independent variables were highly correlated. If there is

high correlation between independent variables, there is possible bias relation between two independent variables that may affect the accuracy of multiregression test results (Shultz & Whitney, 2005). The independent variables in the multiple regression model used to test hypotheses in this study were CEO duality, presence of physicians on governance boards, hospital age, hospital size, and board size were separate and different sets of measurement. Therefore, the concern of measurement reliability that the measurement of the independent variables was similar was addressed in the statistical test of assumption of this study as presented in Chapter 4.

Operating Margin

The operating margin (OMARG) is the dependent variable of the study. It compares the total operating revenue against the total operating expenses of a hospital (Cleverley, Song, & Cleverley, 2010). The OMARG was calculated by dividing the difference between total operating revenue and total operating expenses by the total operating revenues. OMARG was expressed in the formula below:

OMARG = (TOEPR –TOEPE) / TOEPR

Where:

TOEPR = Total operating revenue

TOPE = Total operating expense

Total Margin

The total margin (TMARG) is another dependent variable. It compares net income against total operating revenue and is the most popular indicator of profitability

of a hospital (Cleverley, Song, & Cleverley, 2010). TMARG was calculated by dividing net income by total operating revenue and was expressed in the formula below:

TMARG = NICOM / TOPER

Where:

NICOM = Net income

TOPER = Total operating revenue

Free Cash Flow

Free cash flow (FCF) is the third dependent variable. It represents cash inflow and outflow rather than accounting earnings of a hospital. It shows the amount of cash left over after accounting for all of the expenses to operate the hospital and making all necessary investments to ensure its continuous operation (Horngren et al., 2006). The free cash flow was calculated by subtracting the change in net assets plus interest and noncash expenses from the investments in fixed assets and net working capital (Singh, Wheeler, & Roden, 2012). Alternatively, the free cash flow can be estimated by averaging the current and two prior periods and multiplying by an average annual growth rate of 7.3%, which is based on data from the American Hospital Association (Singh, Wheeler, & Roden, 2012, p.330). This study adopted the calculation method of the free cash flow used by Sigh et al. (2012). FCF was expressed in the formula below:

FCF = ((cFCF + priop1FCF +priop2FCF)/3) * 0.073

Where:

cFCF = current FCF

priop1FCF = prior period 1 FCF

priop2FCF = prior period 2 FCF

CEO Duality

CEO duality (DUAL) is the independent variable representing a CEO who is also the chairperson of the governance board. This variable is categorical. If CEO duality was present for a hospital, then 1 was assigned to the organization. If CEO duality is not present, a 0 was assigned.

Physicians on Governance Board

Presence of physicians on board (PHYGOB) is second independent variable and a continuous variable, representing the numbers of physicians present on the boards. Physicians, who are considered to possess clinical experience, often promote clinical governance, which results in increased hospital performance on quality and finance (Gauld, Horsburg, & Brown, 2011). A value of 1 was assigned if there was one doctor on the governance. Similarly, if a board had two doctors serving on the board, then a value of 2 was given. A value of 0 would be assigned to firms without physicians on governance boards.

Hospital Size

Past research has shown that size has a positive influence on the performance of a firm for various reasons including diversification, economic scale, and access to cheaper resources (Kota & Tomar, 2010). The hospital size (HOSIZE) is the third independent variable. HOSIZE was measured by the logarithm of total assets as suggested by (Peng, Li, Xie, & Su, 2010).

Hospital Age

Older hospitals are considered more efficient than younger firms "because of the effect of learning curve and survival bias" (Abebe, Angriawan, & Liu, 2010, p.272). The hospital age (HOSAGE) is the fourth independent variable. HOSAGE was derived from the logarithm of the difference from the year of this study and the year of the hospital's incorporation.

The Board Size

For hospitals, an effective board size is from 8 to 20 members, large enough for the board to contain an adequate number of members to fulfill responsibilities (Moody's Investor Service, 2014). The size of the board should be limited to fewer than 20 members to promote efficiency (Chubb Group of Insurance Companies, 2014). The board size (BOSIZE) is another independent variable. BOSIZE was measured by number of directors of the governance board.

<div align="center">

Data Collection

</div>

The data collection was driven by the need to test three proposed hypotheses and three alternative hypotheses in an attempt to answer research questions examining the relationship between CEO duality, presence of physicians on governance boards, hospital size, hospital age, board size, and financial performance of not-for-profit hospitals. As substantiated in the literature review, the expectations were that (a) CEO duality was positively related to financial performance of not-for-profit hospitals, (b) presence of physicians on governance boards was positively related with financial performance of not-for-profit hospitals, (c) hospital size was positively related with financial

performance of not-for-profit hospitals, (d) hospital age was positively related with financial performance of not-for-profit hospitals, and (e) board size was positively related with financial performance of not-for-profit hospitals.

The analysis involved secondary data. I searched for not-for-profit hospitals, financial data, and disclosure reports in the OSHPD database. I retrieved financial snapshots and websites of not-for-profit hospitals from Healthcare ATLAS websites. Information on governance members and board structures were retrieved from each hospital website.

Financial data for statistical analysis included financial reports for a 4-year period from January 2009 to December 2012. I collected data of financial data such as operating margins (percentage), current ratio, cash on hands (days), total operating revenue, net income, total operating expenses, net from operating, market values of assets, and total assets that were reported by each hospital in the period of 2009 to 2012. Then, I calculated the average values of these financial data. The financial data, such as operating margin, total margin, and free cash flow were derived from the average values of the calculated financial data. Other data included CEO duality, number of physicians on the board, board size, hospital age, and hospital size. One hundred and forty six not-for-profit hospitals were determined to be the sample for the analysis of this study.

Data Analysis

Once all the relevant data were collected, analyzed, and calculated for each variable, the data were entered and analyzed using SPSS statistical software.

Three equations for the multiple regression model were:

OMARG = a_0 + a_1 DUAL + a_2 PHYGOB + a_3 HOSIZE + a_4 HOSAGE + a_5 BOSIZE + ε

TMARG = a_0 + a_1 DUAL + a_2 PHYGOB + a_3 HOSIZE + a_4 HOSAGE + a_5 BOSIZE + ε

FCF = a_0 + a_1 DUAL + a_2 PHYGOB + a_3 HOSIZE + a_4 HOSAGE + a_5 BOSIZE + ε

Where, a_0 = the intercept of the model, DUAL = CEO duality, PHYSGOB = physicians on governance board, HOSIZE = hospital size, HOSAGE = hospital age, BOSIZE = board size, $a_1...a_5$ are the beta coefficients of the regression model, ε is a random error, OMARG = operating margin, TMARG = total margin, and FCF = free cash flow. The same independent variables were used in three equations to determine their effects on operating margin, total margin, and free cash flow of not-for-profit hospitals.

Statistical Analysis

The data were screened to make sure the following conditions and assumptions were met:

- There were no significant outliers in the data sets of dependent variables.
- The dependent variable was normally distributed in the population for each combination of levels of the independent variables.
- The residuals in the model were random, normally distributed with a mean of zero.
- The scores on variables were independent of other scores on the same variables.

Before conducting interferential statistics, the data was checked to make sure that no outliers existed in the data set. To check for the normality of variable, descriptive data such as mean, mode, median, standard deviations, range, minimum, maximum, histogram, and bar graphs were used to screen the data set. Homogeinity and

multicollinearity were also conducted to account for the integrity and reliability of the data.

After all stated assumptions are met, regression outputs including multiple correlation coefficient, F-ratio, R-squared, adjusted R-squared values were examined. The F-ratio of ANOVA is reported to indicate the overall regression model used for the statistical analysis of data and whether the independent variables statistically significantly predict the dependent variables. The R value, the multiple correlation coefficient, provides the indication of the quality of the prediction of the dependent variables of OMARG, TMARG, and FCF. The R-squared (R^2) and adjusted R-squared (adj. R^2), the coefficient of determination, which varies from 0 to 1, suggest the proportion of variance in the OMARG, TMARG, and FCF that can be explained by the independent variables of DUAL and PHYGOB. Furthermore, the statistical significance of the DUAL and PHYGOB variables was determined by analyzing the t value and the corresponding p value that suggest whether their coefficients are statistically significantly different from 0.

Hypothesis Formulation

A statistical hypothesis f test was used to determine whether there was a linear relationship between the operating margin, total margin, free cash flow, and any of the independent variables. The statistical hypotheses were expressed as:

Hypothesis 1, $H1_0$: $a_1 = a_2 = a_3 = a_4 = a_5 = 0$

$H1_a$: Not all the a_i $(i = 1\ldots5)$ were zero

Hypothesis 2, $H2_0$: $a_1 = a_2 = a_3 = a_4 = a_5 = 0$

$H2_a$: Not all the a_i ($i = 1\ldots5$) were zero

Hypothesis 3, $H3_0$: $a_1 = a_2 = a_3 = a_4 = a_5 = 0$

$H3_a$: Not all the a_i ($i = 1\ldots5$) were zero

I established a level of significance level α of 5%, which means that the null

hypothesis was rejected if the calculated p value less than α, .05 (Field, 2009). If the null

hypothesis held true, there was no linear relationship between the financial performance

and any of the independent variables in the proposed regression equation. However, if the

null hypothesis was rejected, there was statistical evidence of a regression relationship

between the financial performance and at least one of the independent variables in the

model. If such a regression relationship existed, I then conducted five t tests for each of

the beta coefficients (a_1, a_2, a_3, a_4, a_5) to determine which independent variables helped

explain the variation in the values of the dependent variables. The independent variables

having no explanatory power (i.e., if they do not make a statistically significant

contribution to how well the model predicts the outcome variable, the dependent

variable) were removed from the regression model using the stepwise method.

Protection of Selected Organizations of the Study

Walden University requires every study to comply with the University's ethical

standards of research and with U.S. federal regulations and any applicable international

guidelines. The Walden University Internal Review Board (IRB) granted the permissions

to conduct this study (approval number 12-03-14-0275589). Regarding ethical issues, the

study did not involve human subjects. However, it involved collecting data about

organizations. For the statistical analysis, I used secondary data that included published

financial reports of multiple years and board structures of not-for-profit hospitals obtained from public and private databases. Specifically, the proxy statements and financial statements reflecting board structures and financial indicators were used to compile statistical analysis using SPSS software. There was a need to anticipate and address any ethical dilemmas that might arise in this study. Therefore, data integrity and confidentiality were built into the study to prevent unexpected consequences that might affect the targeted institutions. Names of the analyzed organizations were blinded to maintain their confidentiality. For data integrity, the committee chair, the methodologist, and I were the only individuals who could have access to the raw and analyzed data. I guarded the data and did not share data with individuals who were not involved in this project. Data will be stored for 5 years. Afterward, the data will be discarded appropriately so that they do not fall into hands of others who might misuse them.

Dissemination of Findings

Presenting posters at conferences will provide an opportunity for me to develop professional experiences and to network with other faculty and students with similar research interests. As part of attempt to promote scholarly activity and positive social change, I might present this dissertation or disseminate the results if Walden University offers me the opportunity to share the study in poster sessions at research symposia. I ensured I did not engage in fraudulent practices, such as suppression, falsification, or inventions of findings or outcomes, in order to meet my expectations.

Summary

Chapter 3 addressed the research design to test hypotheses formulated from research questions grounded in the literature review and indicated there is need to examine the relationship between CEO duality, presence of physicians, and financial performance of not-for-profit hospitals. Chapter 3 showed rationales for choosing quantitative research using secondary data as the most appropriate approach for the study. This chapter addressed all components associated with quantitative study and specified the multiple regression model as the statistical model used to test the proposed hypotheses and the alternative hypotheses.

Chapter 4 shows the results of this study. Chapter 5 indicates an entire overview of this study, findings, and implications that might be valuable for not-for-profit hospitals and their administrators seeking appropriate governance models to enhance the effectiveness of their organizations.

Chapter 4: Results

Introduction

In this chapter, I present the research findings of the study. The research questions of the study were whether there were positive, statistically significant relationships between CEO duality, presence of physicians on governance boards, and not-for-hospitals' financial performance, namely total margin, operating margin, and total cash free. The statistical analysis of this study involved descriptive and inferential statistics. The descriptive statistical analysis was used to generate frequency distribution and central distribution, as these techniques provided effective methods to organize, describe, summarize, and quantitatively visualize the data of this study. To show the frequency distribution and central tendencies associated with descriptive statistics, the mean, medium, mode, range, minimum, maximum, and standard deviation of financial performance as well as other data related to CEO duality and governance boards of the sampled not-for-profit hospitals were tabulated and plotted. The inferential statistical analysis was used to test the hypotheses of the study and make generalizations from the sampled not-for-profit hospitals to the population of the not-for-profit hospitals. Specifically, the inferential statistics based on the results generated from the multiple regression provided assessment of the relationship between CEO duality, presence of physicians on hospital governance boards, and the financial performance of not-for-profit hospitals.

This chapter is organized in three major sections. In the first section, I present the descriptive statistics of the sampled not-for-profit hospitals. The second major section

addresses the analysis of inferential statistics of sampled not-for-profit hospitals. Within the second major section, the findings regarding a relationship between CEO duality, presence of physicians on governance board, and each of three financial performance indicators are explained.

Data Collection

One hundred and seven not-for-profit hospitals were determined to be the sample size for the study as presented in Chapter 3. However, I decided to select 146 not-for-profit hospitals listed in the OSHPD websites and database. The OSHPD stores and administers the reported financial data, governance data, and other healthcare information of 4,840 healthcare organizations comprising hospitals, long-terms care facilities, home health and hospice, and primary and specialty clinics located in the State of California. Financial and governance data for the period of January 2009 to December 2012 were retrieved from Excel files available from OSHPD and hospitals' websites. A detailed description of the OSHPD identification number, facility name, hospitals' websites, relevant financial data, and governance information of the sampled not-for-profit hospitals are documented in Appendices A, B, C, and D.

Study Results

Analysis of Descriptive Statistics of Sampled Not-For-Profit Hospitals

In this section, I report the descriptive statistics of sampled not-for-profit hospitals based on the mean, median, mode, range, and standard deviation of operating margin, total margin, free cash flow, CEO duality, presence of physicians on governance board, hospital size, hospital age, and board size. These descriptive statistical tests are based on

central tendency and dispersion that are appropriate for categorical and continuous variables.

Total Margin Variable

As Table 2 shows, 146 hospitals reported their total margins. On average, the sampled hospitals had a 6% total margin. Based on the mode value, more hospitals had a 4% total margin compared with other groups of hospitals. The median total margin of 4.8% divided the total margin distribution into two equal parts. The total margins were between -.28 and .40, suggesting that some hospitals operated with a negative 28% total margin while some hospitals gained a maximum total margin of 40%. There was a large range and a large dispersion of total margin (standard deviation of .086 or 8.6%). However, the central half of the total margin was between 2% and 3%, based on the interquartile range determined by the lower and upper quartiles values. Figure 2 shows approximately 2.7 % of hospitals had a 4% total margin as the largest group. Also, as shown in Figure 2 with the mean value greater than the median value, the total margin distribution is a positively skewed distribution, suggesting there were more hospitals earning total margin greater than 4.8%.

Table 2

Descriptive Statistics-All Variables except DUAL Variable

		TMARG	OMARG	FCF	PHYGOB	HOSIZE	HOSAGE	BOSIZE
N	Valid	146	146	146	145	146	146	146
	Missing	0	0	0	1	0	0	0
Mean		.0599	.0525	1,343,739	3.38	8.2580	1.8062	17.32
Median		.0480	.0300	377,908	3.00	8.2750	1.8100	15.00
Mode		.04	.00	1	4	7.94	1.77[a]	15
Std. Deviation		.08636	.05971	2,647,112	2.024	.47551	.21718	9.357
Range		.68	.29	15,768,673	13	2.11	1.28	64
Minimum		-.28	.00	0	0	7.23	.90	4
Maximum		.40	.29	15,768,673	13	9.34	2.18	68

Note. Multiple modes exist. The smallest value is shown.
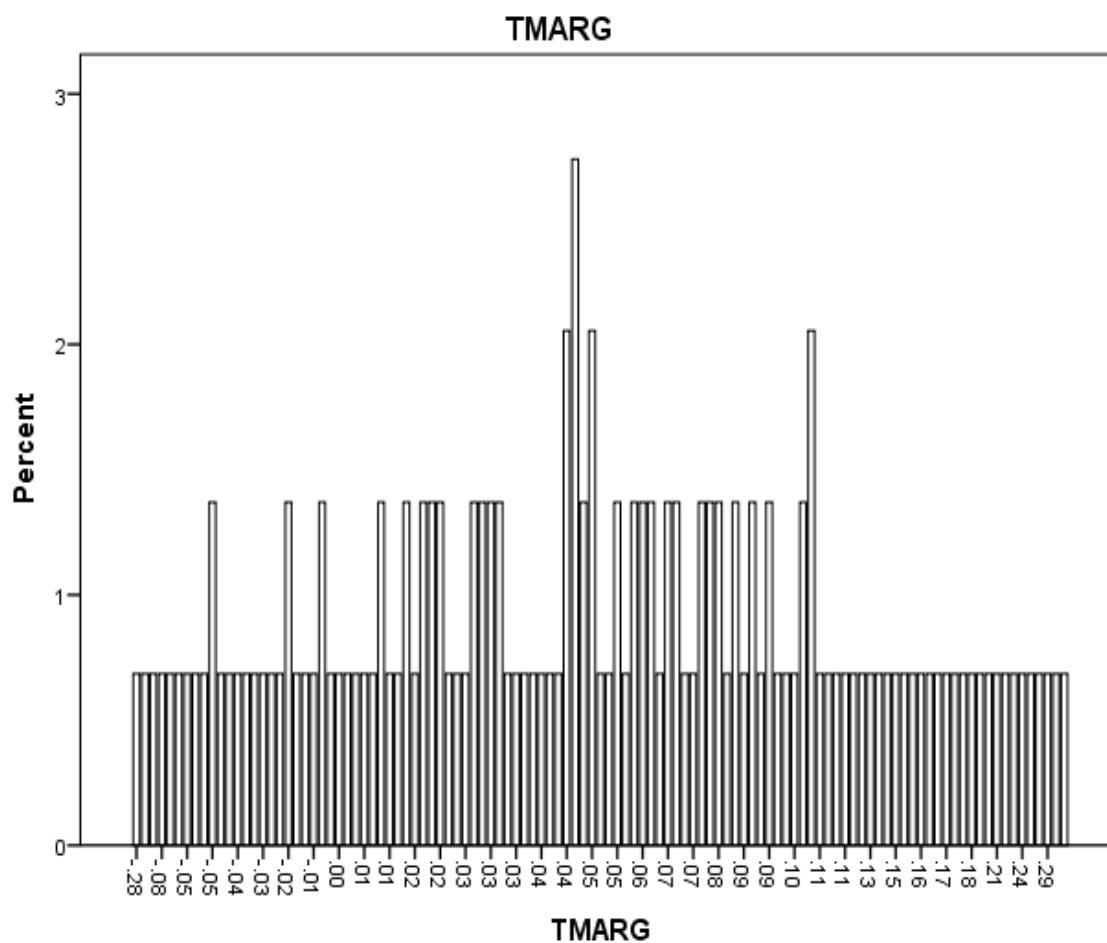
Figure 2. Bar graph showing central tendency and dispersion of total margin.

Operating Margin

As shown in Table 2, 146 of the sampled hospitals reported their operating

margin. On average, the sampled hospitals had 5.3% of operating margin. Based on the

mode value, more hospitals had a 0% total margin compared with other groups among

the sampled hospitals. The median value of 3% divided the operating margin distribution

into two equal parts. The operating margin values were between 0 and .29, suggesting

that some hospitals operated with 0% of operating margin while some hospitals gained a maximum operating margin of 29%. Figure 3 shows approximately 29% of hospitals had a 0% operating margin as the largest group. There was a large range and a large dispersion of operating margin (standard deviation of .06 or 6%). However, the central half of the operating margin was between 1% and 7%, based on the interquartile range determined by the lower and upper quartiles values. Moreover, as shown in Figure 3 and with the mean value greater than the median value, the operating margin distribution is a positively skewed distribution, suggesting for hospitals with operating margins greater than zero, about 55% had operating margins greater than 3%.
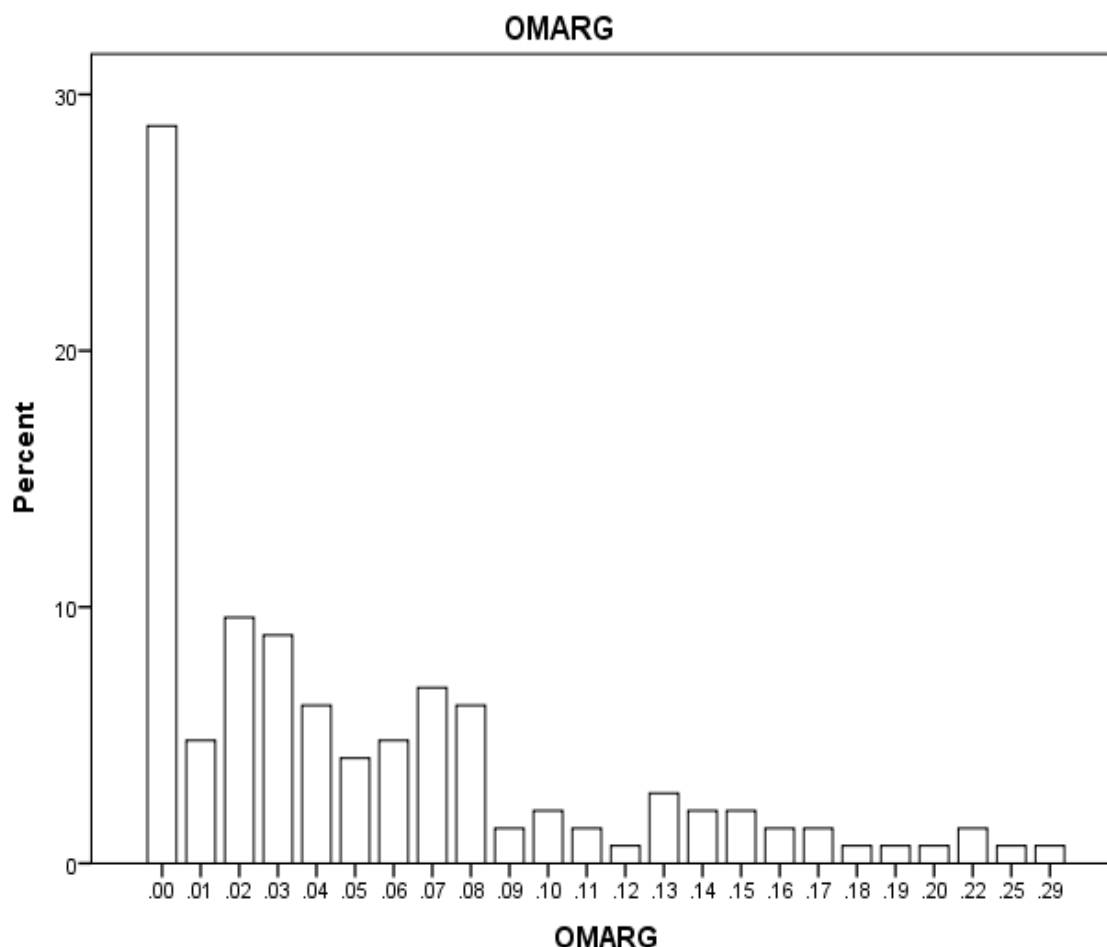
Figure 3. Bar graph showing central tendency and dispersion of operating margin.

Free Cash Flow

As shown in Table 2, all the 146 sampled hospitals reported their total assets for

the period of 2009 to 2012. On average, the sampled hospitals had $1,340,000 of free

cash flow. The median free cash flow of $378,000 divided the free cash flow distribution

into two equal parts. The free cash flow was between $0 and $15,768,000, suggesting that

some hospitals had free cash flow of $0 while some hospitals operated with a free cash

value of $15,768,000. Figure 4 shows one hospital with a free cash flow of $0. There was

a large range and a large dispersion of free cash flow (standard deviation of $2,647,000).

However, as shown in Figure 4, the central half of free cash flow was between $94,180

and $1,364,600.
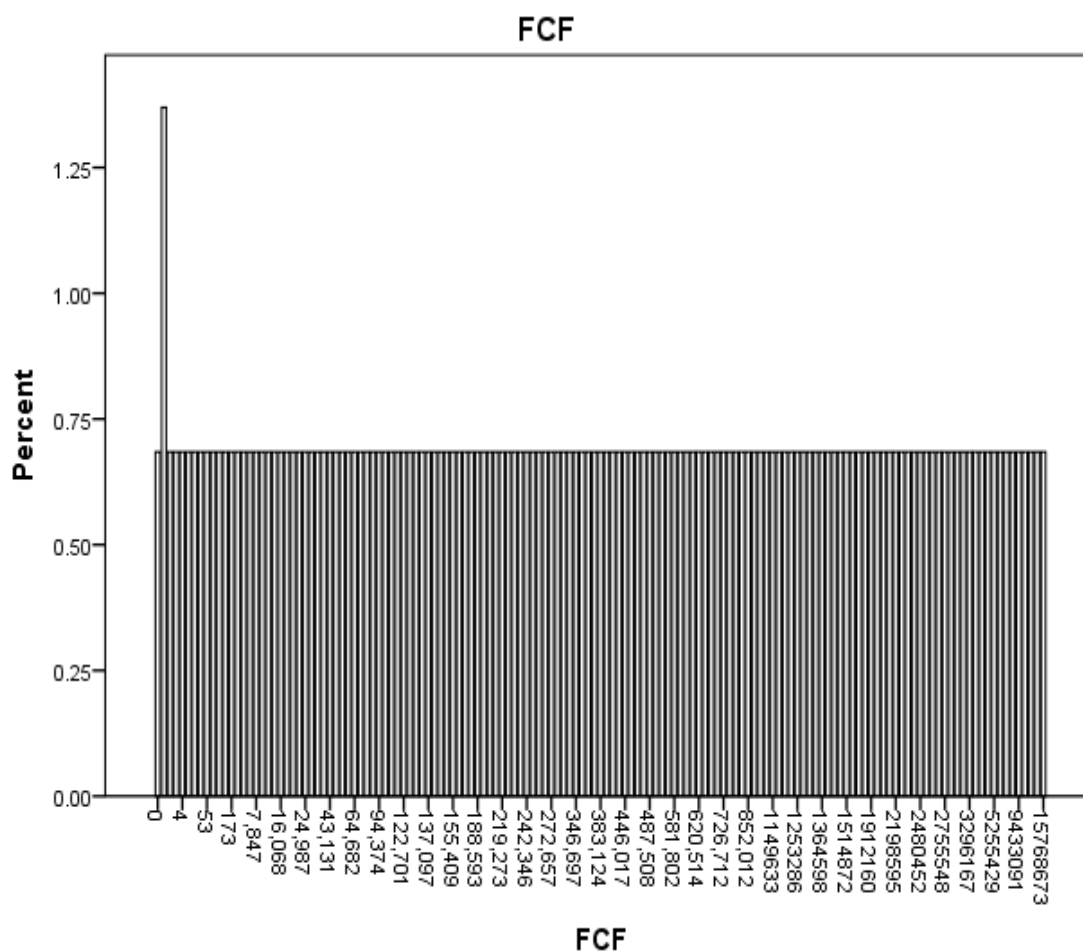
Figure 4. Bar graph showing central tendency and dispersion of free cash flow.

CEO Duality

Table 3 and Figure 5 reveal information about CEO duality of hospitals. Thirty-

two out of 146 hospitals had CEOs who were also the chairpersons of their respective

governance boards. In other words, about 23% of the hospitals practiced CEO duality.

Table 3

Descriptive Statistics--DUAL Variable

N	Valid	146
	Missing	0
Sum		32
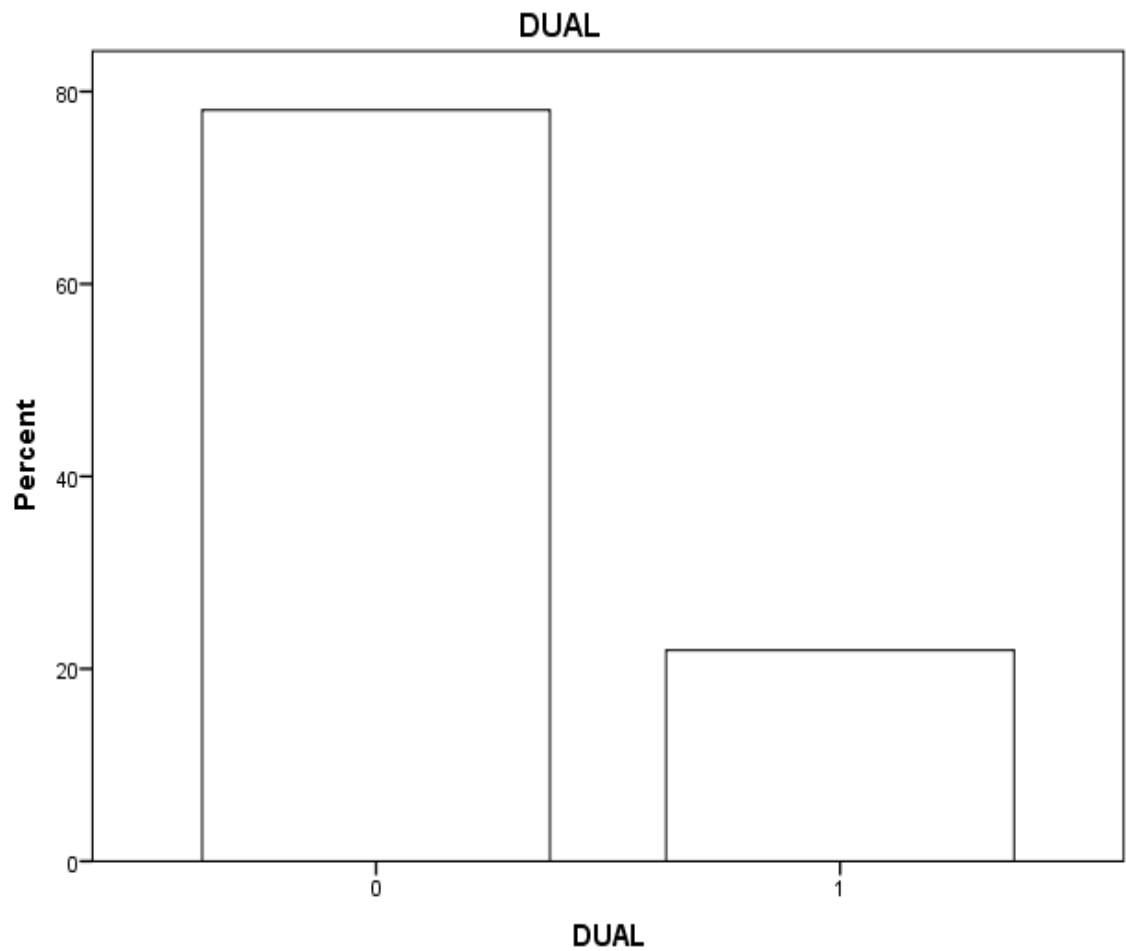
Figure 5. Bar graph showing CEO duality of hospitals.

Presence of Physicians on Governance Board

As shown in Table 2, one hospital did not report governance board information. On average, the sampled hospitals had more than three physicians (mean = 3.38) on their governance boards. The median number of physicians on governance board (3) divided the distribution of the number of physicians on the board into two equal parts. There was a large range and a large dispersion of number of physicians on boards (standard deviation of 2). Based on the mode value, Figure 6, 27%, 16%, 21%, and 16% of hospitals had four, three, two, and one physician(s) on their governance boards, respectively. The number of physicians present on board was between 0 and 13. One hospital did not have physicians on its governance board, while another hospital had 13 doctors on its governance board.
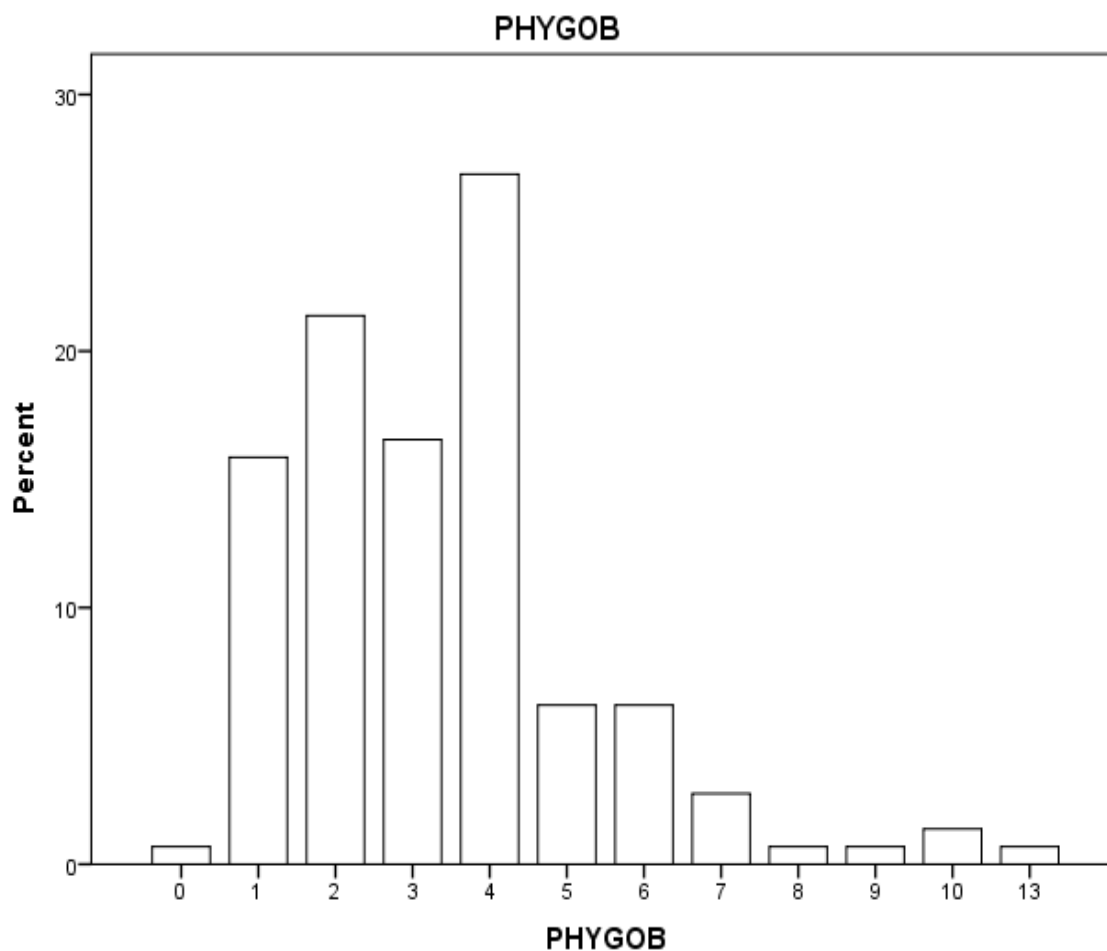
Figure 6. Bar graph showing central tendency and dispersion of presence of physicians

on governance board.

Hospital Size

All the hospitals reported their total assets, which are used as a measurement of

hospital size expressed in a logarithm value. As shown in Table 2, on average, hospitals

had total assets of 180 million dollars. The median total assets of $500 million dollars

divided the distribution of the hospital size into two equal parts. The smallest and biggest

hospitals had total assets of 16 million dollars and 2 billion dollars, respectively. The

mode value suggests there were more hospitals with total assets of 80 million dollars. The

hospital size distribution is an even distribution. As shown in Figure 7, about 4% of hospitals had total assets of 80 million dollars.
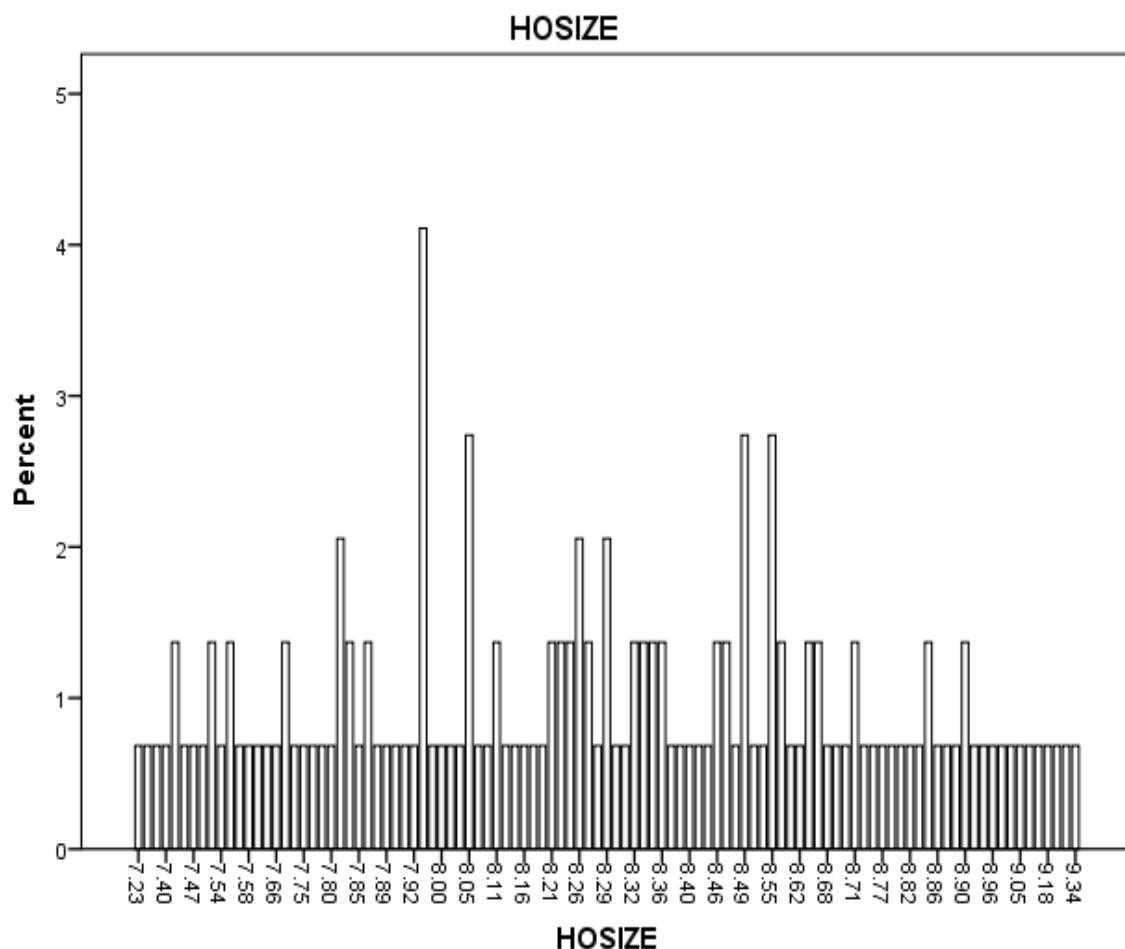
Figure 7. Bar graph showing central tendency and dispersion of hospital size.

Hospital Age

The hospital age was derived from the logarithm of the difference from the year of this study and the year of the hospital's incorporation. All the hospitals reported the years of their establishment, which is used for calculating the hospital age expressed in logarithm value. As shown in Table 2, the average age of hospitals was approximately

63, and more hospitals were 60 years old compared with other groups of hospitals. The hospital age was between 8 and 150 years, a range of difference of 142 years between the youngest and the oldest hospitals. The group of hospitals that were 65 years old divided the hospital age distribution into two equal parts. Even though there was a large range of hospital ages, most hospitals were between 50 and 90 years of age, which was determined based on the interquartile range determined by the lower and upper quartiles values. Figure 8 shows that three major groups, each including 9% of hospitals, were 60, 90, and 110 years old.
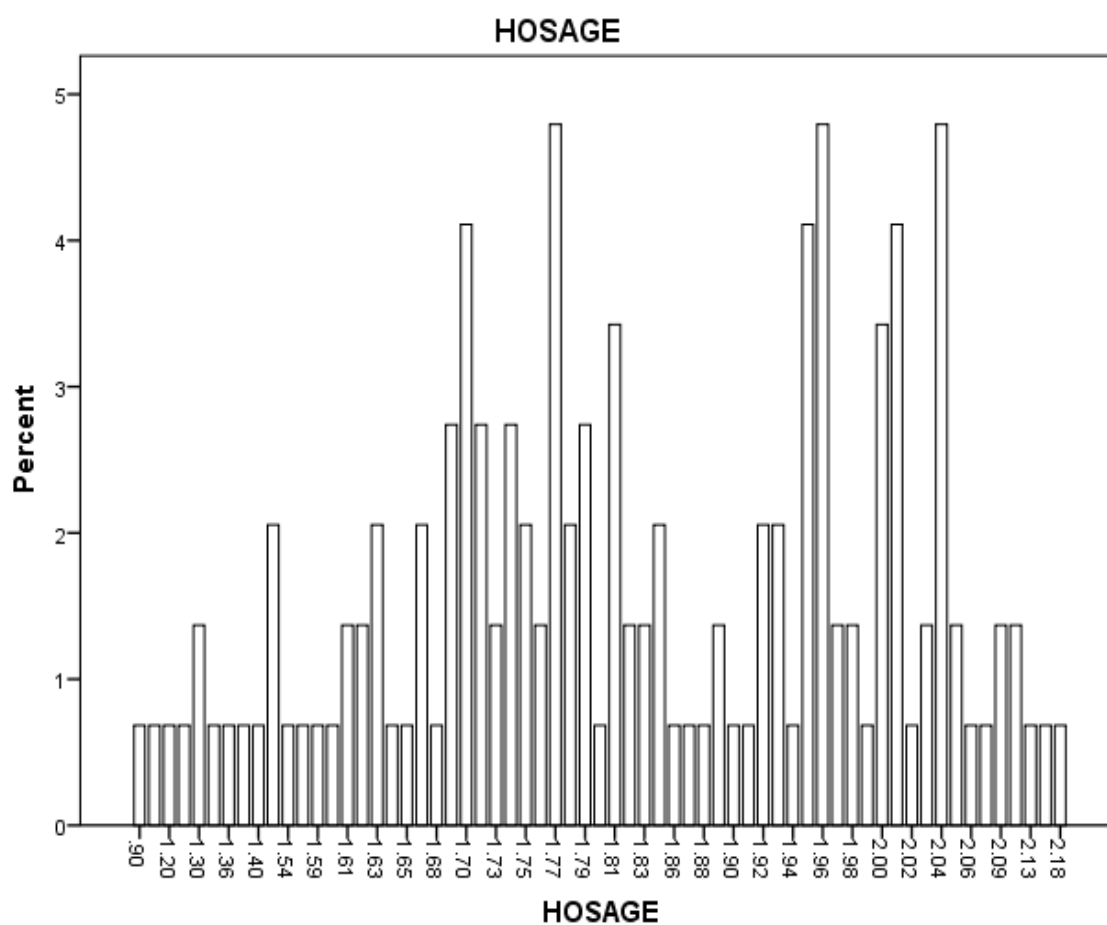
Figure 8. Bar graph showing central tendency and dispersion of hospital age.

Board Size

As shown in Table 2, all the values of the board size variables of hospitals were accounted for. On average, governance boards had 17 members. The median number of members (15) divided the distribution of board sizes into two equal parts. Based on the mode value, more hospitals (11%) had 15 board members compared with other groups of hospitals. The board size was between 4 and 68, a range of 62 of difference in board size between the smallest and the biggest governance board. As shown in Figure 9, one hospital has only four members while another hospital has 68 board members. The second largest boards had between 46 or 48 members. There was a large range, and a large dispersion of the size of governance board ($SD = 9.0$). However, most hospitals had boards with between 11 and 20 members.
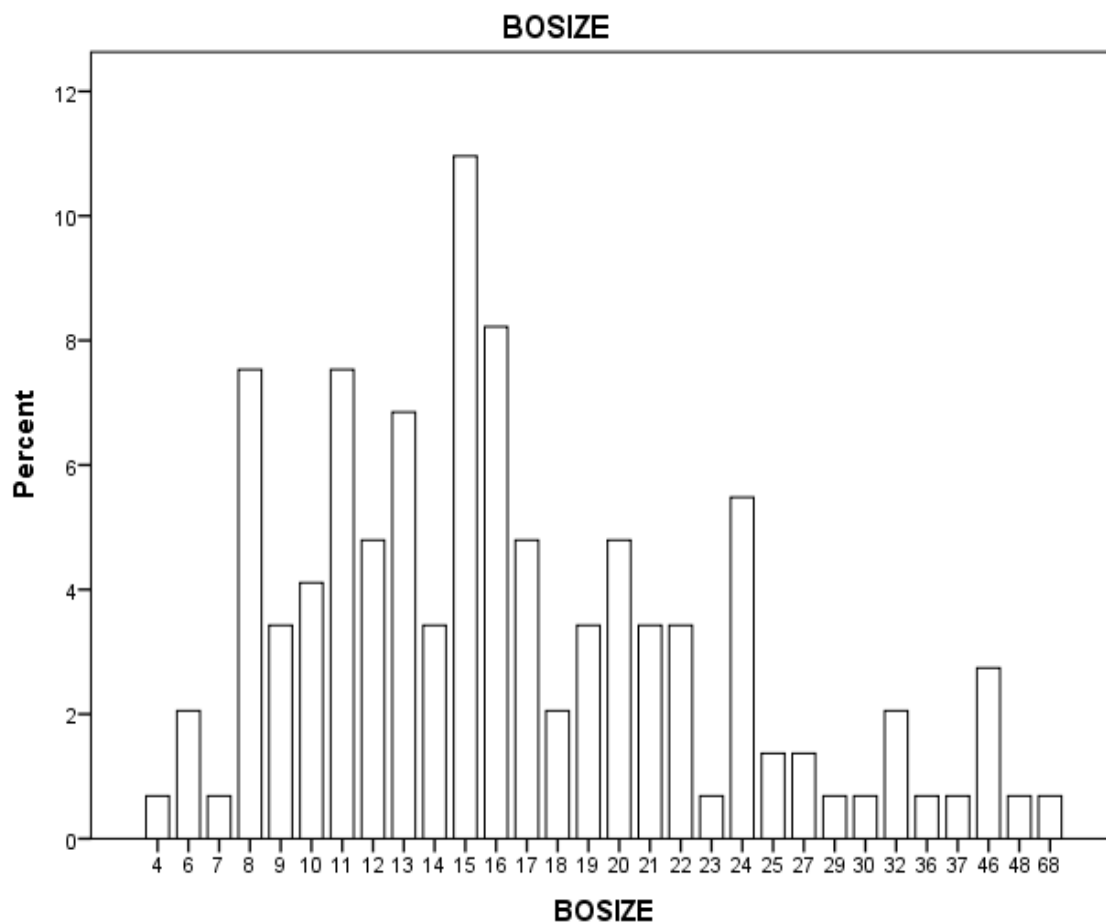
Figure 9. Bar graph showing central tendency and dispersion of board size.

Analysis of Statistical Assumptions

There are underlying assumptions associated with a statistical test of multiple regression. The following assumptions were evaluated for the regression model $Y_i = b_o + b_1X_{1i} + b_2X_{2i} + \ldots + b_nX_{ni} + \varepsilon_i$:

- All the predictor variables were categorical level or continuous level.

- The dependent variables were distributed normally in the population for each combination of levels of the independent variables.

- All the predictors had some non-zero values of variation.

- No predictors were highly correlated, meaning there was no perfect multicollinearity.

- The residual terms were uncorrelated for any two observations.

- The predictors were uncorrelated with external variables.

- The residuals at each level of predictors had the same variance, meaning homoscedasticity did exist.

Categorical or Continuous Level Assumption of Independent Variables.

The predictor variables of CEO duality and the presence of physicians (the independent variables) were categorical variables. The hospital size, hospital age, and the board size variables were continuous variables. Therefore, the assumption of categorical or continuous level of predictor variables was met for the regression analysis.

Normal Distribution of the Dependent Variables

Figures 10 to 15 show the histograms and the normal P-P plots of the dependent variables of total margin, operating margin, and free cash flow. The histograms and the normal P-P plots suggest nearly normally distributed residual; thus, the assumption of normally distributed errors was met.
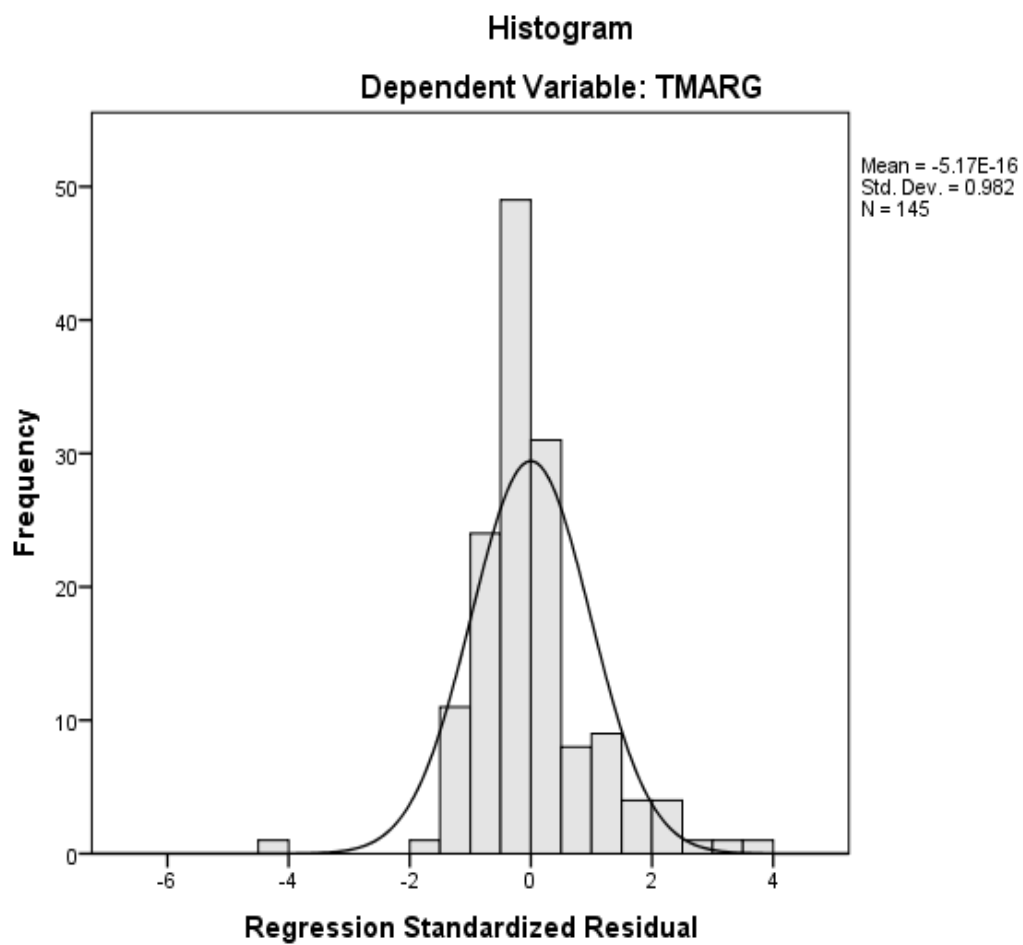
Figure 10. Histogram of nearly normally distributed residual of total margin.
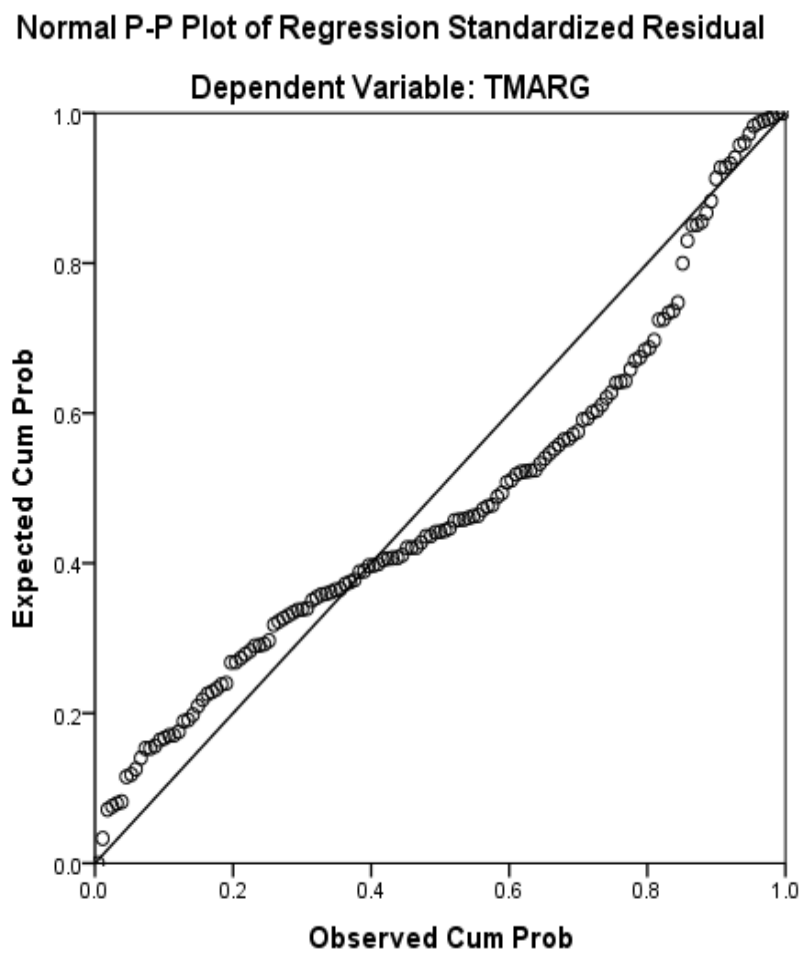
Figure 11. Normal P-P plot of nearly normally distributed residuals of total margin.
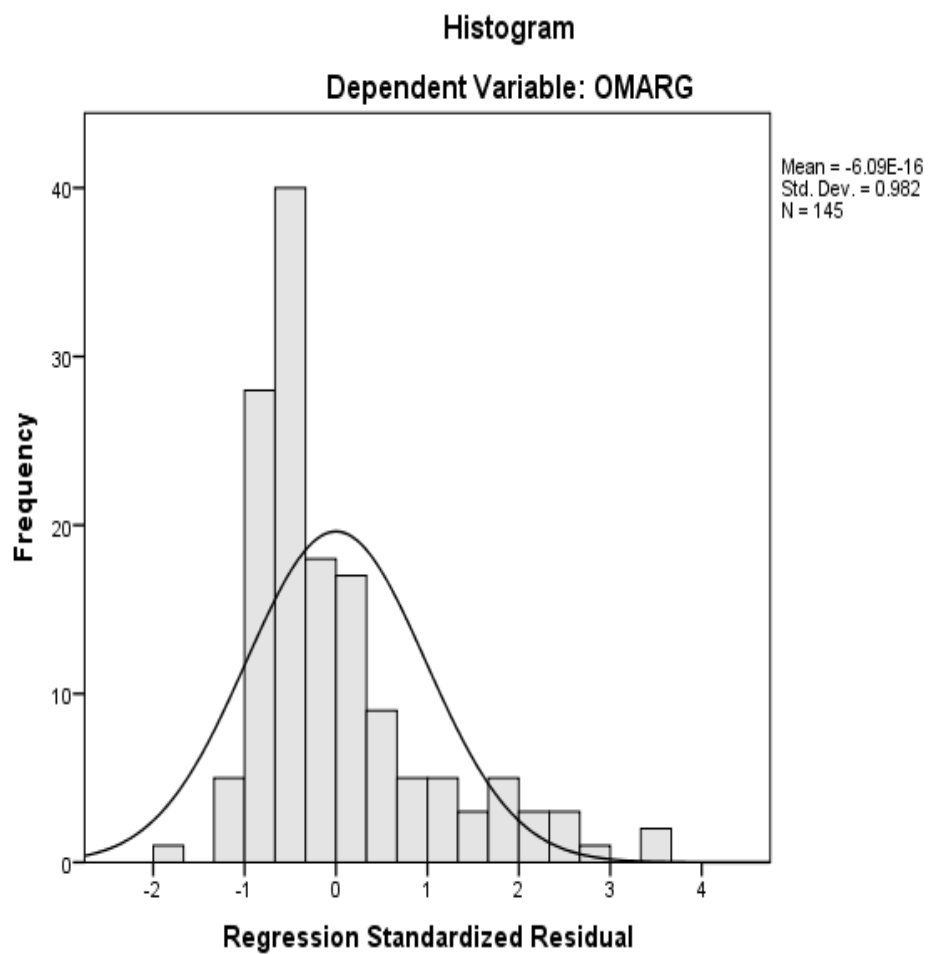
Figure 12. Histogram of nearly normally distributed residual of operating margin.
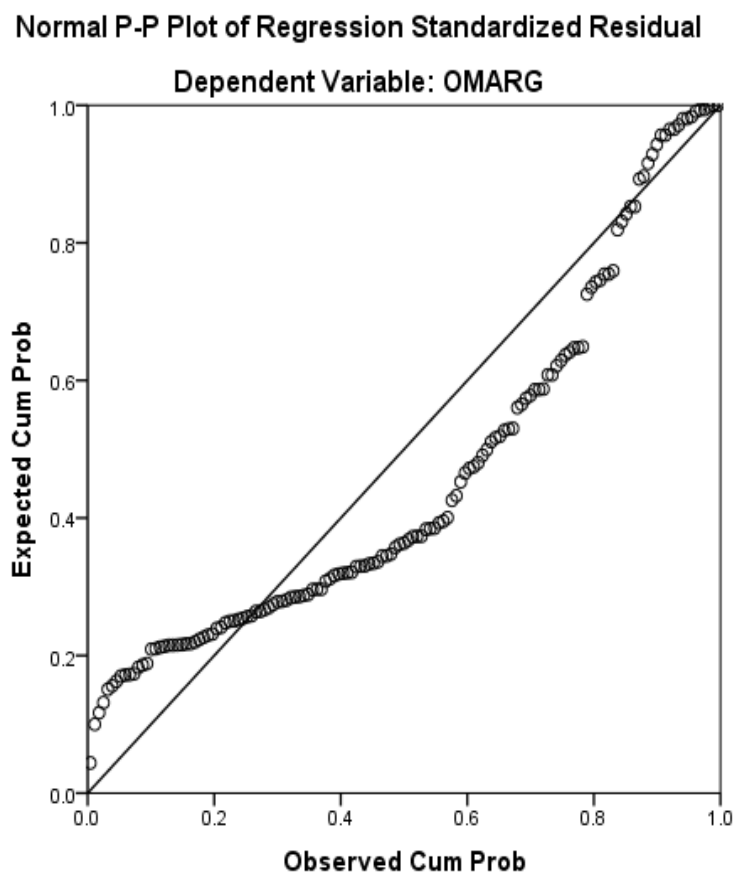
Figure 13. Normal P-P plot of nearly normally distributed residuals of operating margin.
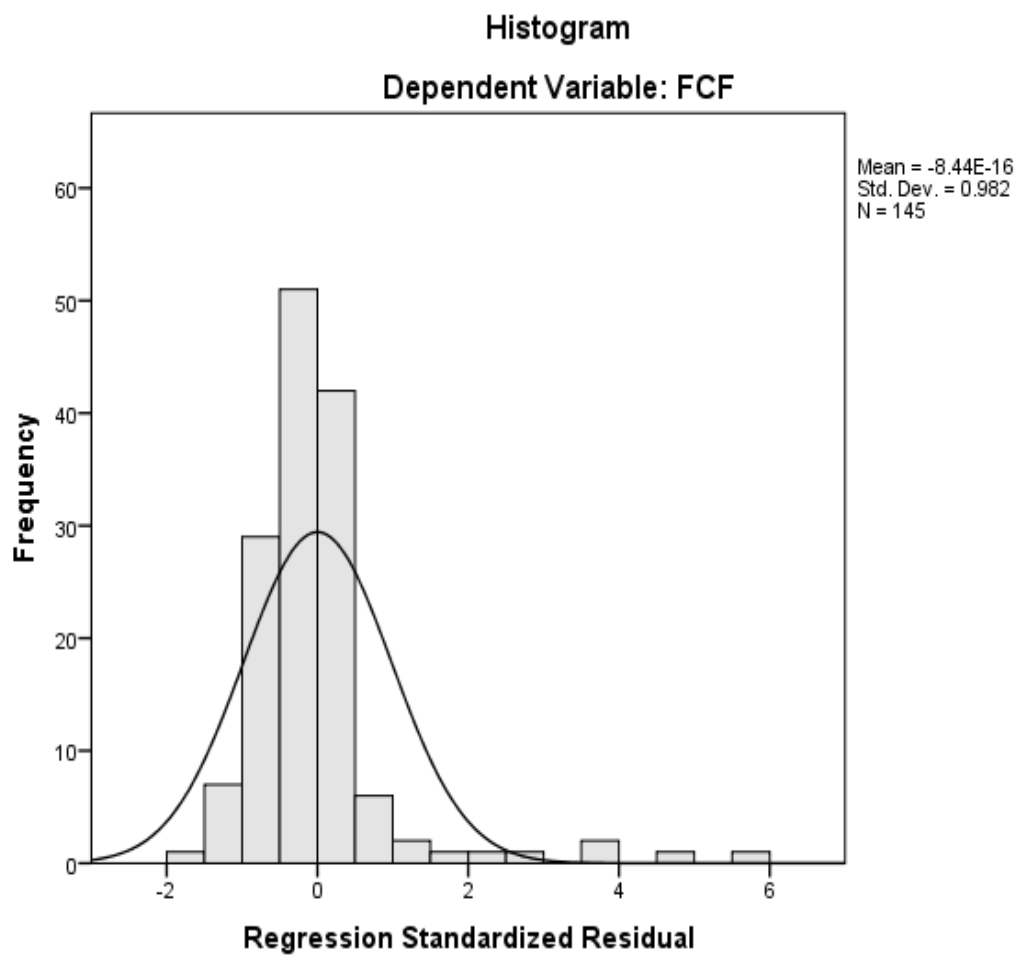
Figure 14. Histogram of nearly normally distributed residual of free cash flow.
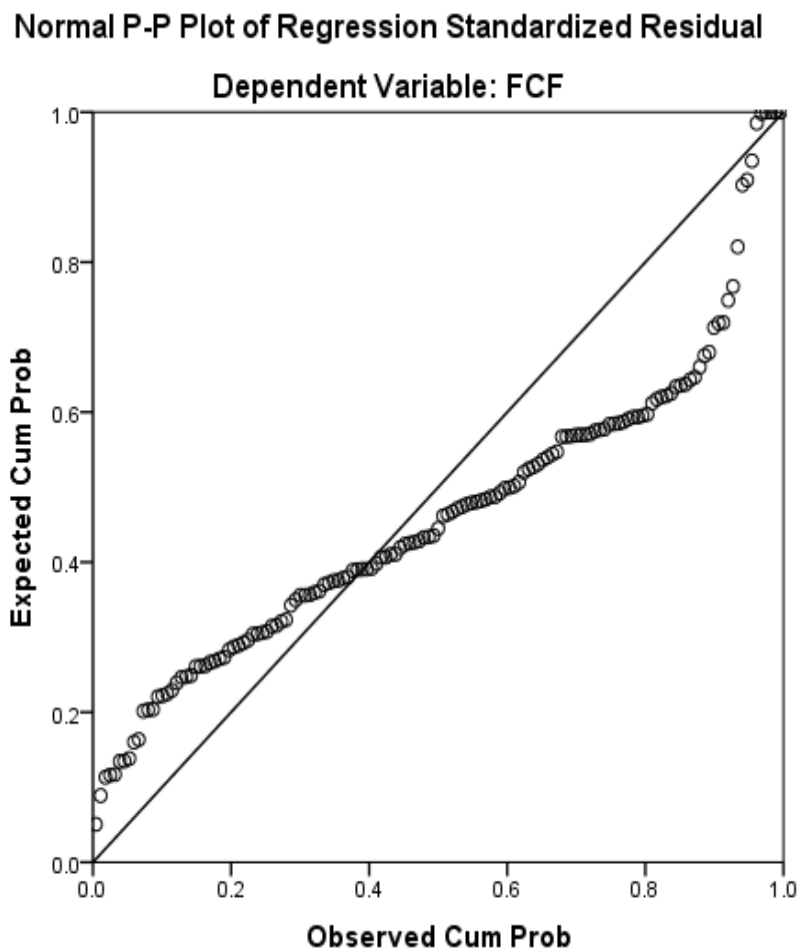
Figure 15. Normal P-P plot of nearly normally distributed residuals of free cash flow.

Independent Errors Assumption

The Durbin-Watson statistic informs whether the independent errors assumption is violated. The Durbin-Watson varies between 0 and 4, with a value of 2 meaning the residuals are uncorrelated. As shown in Tables 4, 5, and 6, the Durbin-Watson values were 2.06, 2.07, and 2.12, indicating that the assumption of independent errors was not violated.

Table 4

Model Summary-Total Margin as Dependent Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	$df1$	$df2$	Sig. F Change	
1	.028[a]	.001	-.006	.08622	.001	.116	1	143	.734	
2	.128[b]	.016	.003	.08585	.016	2.249	1	142	.136	
3	.139[c]	.019	-.002	.08603	.003	.411	1	141	.523	
4	.220[d]	.048	.021	.08504	.029	4.277	1	140	.040	
5	.233[e]	.054	.020	.08508	.006	.896	1	139	.345	2.064

Note. a. Predictors: (Constant), DUAL

b. Predictors: (Constant), DUAL, PHYGOB

c. Predictors: (Constant), DUAL, PHYGOB, HOSIZE

d. Predictors: (Constant), DUAL, PHYGOB, HOSIZE, HOSAGE

e. Predictors: (Constant), DUAL, PHYGOB, HOSIZE, HOSAGE, BOSIZE

f. Dependent Variable: TMARG

Table 5

Model Summary-Operating Margin as Dependent Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	$df1$	$df2$	Sig. F Change	
1	.056[a]	.003	-.004	.05987	.003	.450	1	143	.504	
2	.141[b]	.020	.006	.05957	.017	2.410	1	142	.123	
3	.146[c]	.021	.000	.05974	.002	.217	1	141	.642	
4	.239[d]	.057	.030	.05885	.036	5.303	1	140	.023	
5	.247[e]	.061	.027	.05894	.004	.567	1	139	.453	2.073

Note. a. Predictors: (Constant), DUAL

b. Predictors: (Constant), DUAL, PHYGOB

c. Predictors: (Constant), DUAL, PHYGOB, HOSIZE

d. Predictors: (Constant), DUAL, PHYGOB, HOSIZE, HOSAGE

e. Predictors: (Constant), DUAL, PHYGOB, HOSIZE, HOSAGE, BOSIZE

f. Dependent Variable: OMARG

Table 6

Model Summary-Free Cash Flow as Dependent Variable

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.029[a]	.001	-.006	2,662,085	.001	.117	1	143	.733	
2	.064[b]	.004	-.010	2,667,063	.003	.467	1	142	.496	
3	.483[c]	.233	.217	2,348,993	.229	42.059	1	141	.000	
4	.486[d]	.236	.214	2,352,679	.003	.559	1	140	.456	
5	.487[e]	.237	.210	2,359,230	.001	.224	1	139	.637	2.118

Note. a. Predictors: (Constant), DUAL

b. Predictors: (Constant), DUAL, PHYGOB

c. Predictors: (Constant), DUAL, PHYGOB, HOSIZE

d. Predictors: (Constant), DUAL, PHYGOB, HOSIZE, HOSAGE

e. Predictors: (Constant), DUAL, PHYGOB, HOSIZE, HOSAGE, BOSIZE

f. Dependent Variable: FCF

Multicollinearity Assumption

Tables 7, 8, 9 show correlation matrix of the multiple regression test, which was used to test if there was high correlation between the CEO duality and presence of physicians on board governance predictors, as well as other independent variables. If there were highly correlated predictors, then the Pearson correlation would be equal to

.955 and the Sig (1-tailed) of .000 < .05. There were no Pearson correlations greater than

.50, suggesting the CEO duality and presence of physicians on board governance

predictors and the governance board and hospital characteristic predictor variables were

not highly correlated. Therefore, the assumption that there was no perfect

multicollinearity existing in the regression test for the model was met.

Table 7

Correlation-Total Margin as the Dependent Variable

		TMARG	DUAL	PHYGOB	HOSIZE	HOSAGE	BOSIZE
Pearson Correlation	TMARG	1.000	-.028	.124	.072	-.132	-.037
	DUAL	-.028	1.000	.032	.035	.017	.015
	PHYGOB	.124	.032	1.000	.163	.045	.375
	HOSIZE	.072	.035	.163	1.000	.383	.219
	HOSAGE	-.132	.017	.045	.383	1.000	.194
	BOSIZE	-.037	.015	.375	.219	.194	1.000
Sig. (1-tailed)	TMARG	.	.367	.069	.195	.057	.329
	DUAL	.367	.	.352	.336	.421	.431
	PHYGOB	.069	.352	.	.025	.294	.000
	HOSIZE	.195	.336	.025	.	.000	.004
	HOSAGE	.057	.421	.294	.000	.	.010
	BOSIZE	.329	.431	.000	.004	.010	.
N	TMARG	145	145	145	145	145	145
	DUAL	145	145	145	145	145	145
	PHYGOB	145	145	145	145	145	145
	HOSIZE	145	145	145	145	145	145
	HOSAGE	145	145	145	145	145	145
	BOSIZE	145	145	145	145	145	145

Table 8

Correlation-Operating Margin as the Dependent Variable

		OMARG	DUAL	PHYGOB	HOSIZE	HOSAGE	BOSIZE
Pearson Correlation	OMARG	1.000	-.056	.127	.057	-.155	-.026
	DUAL	-.056	1.000	.032	.035	.017	.015
	PHYGOB	.127	.032	1.000	.163	.045	.375
	HOSIZE	.057	.035	.163	1.000	.383	.219
	HOSAGE	-.155	.017	.045	.383	1.000	.194
	BOSIZE	-.026	.015	.375	.219	.194	1.000
Sig. (1-tailed)	OMARG	.	.252	.064	.247	.031	.378
	DUAL	.252	.	.352	.336	.421	.431
	PHYGOB	.064	.352	.	.025	.294	.000
	HOSIZE	.247	.336	.025	.	.000	.004
	HOSAGE	.031	.421	.294	.000	.	.010
	BOSIZE	.378	.431	.000	.004	.010	.
N	OMARG	145	145	145	145	145	145
	DUAL	145	145	145	145	145	145
	PHYGOB	145	145	145	145	145	145
	HOSIZE	145	145	145	145	145	145
	HOSAGE	145	145	145	145	145	145
	BOSIZE	145	145	145	145	145	145

Table 9

Correlations-Free Cash Flow as Dependent Variable

		FCF	DUAL	PHYGOB	HOSIZE	HOSAGE	BOSIZE
Pearson Correlation	FCF	1.000	.029	.058	.482	.134	.123
	DUAL	.029	1.000	.032	.035	.017	.015
	PHYGOB	.058	.032	1.000	.163	.045	.375
	HOSIZE	.482	.035	.163	1.000	.383	.219
	HOSAGE	.134	.017	.045	.383	1.000	.194
	BOSIZE	.123	.015	.375	.219	.194	1.000
Sig. (1-tailed)	FCF	.	.366	.244	.000	.054	.070
	DUAL	.366	.	.352	.336	.421	.431
	PHYGOB	.244	.352	.	.025	.294	.000
	HOSIZE	.000	.336	.025	.	.000	.004
	HOSAGE	.054	.421	.294	.000	.	.010
	BOSIZE	.070	.431	.000	.004	.010	.
N	FCF	145	145	145	145	145	145
	DUAL	145	145	145	145	145	145
	PHYGOB	145	145	145	145	145	145
	HOSIZE	145	145	145	145	145	145
	HOSAGE	145	145	145	145	145	145
	BOSIZE	145	145	145	145	145	145

Analysis of Inferential Statistics of Sampled Not-For-Profit Hospitals

This section reports inferential statistics based on the multiple regression analysis of the relationship between the CEO duality, presence of physicians on governance boards, governance board and hospital characteristics, and financial performance of sampled not-for profit hospitals. It begins with linear relationship analysis and regression results of CEO duality, presence of physicians, hospital size, hospital age, board size, and total margin of the sampled not-for-profit hospitals.

CEO Duality, Presence of Physicians on Boards, Board Size, Hospital Size and Age,

and Total Margin

Research Question 1 asked whether there was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, board size, hospital size and age, and total margin of not-for-profit hospitals. The multiple regression equation model with the total margin as the dependent variable and CEO duality, presence of physicians on boards, board size, hospital size, and age as the independent variables, and other control variables was:

$$TMARG = a_0 + a_1 \, DUAL + a_2 \, PHYGOB + a_3 \, HOSIZE + a_4 \, HOSAGE + a_5 \, BOSIZE + \varepsilon$$

Where

a_0 = the intercept of the model,

DUAL = CEO duality,

PHYSGOB = physicians on governance board,

HOSIZE = hospital size,

HOSAGE = hospital age,

BOSIZE = board size,

$a_1...a_5$ = the beta coefficients of the regression model,

ε is a random error, and

TMARG = total margin

The prediction of the outcome of total margin by the weighted combination for CEO duality and presence of physicians on governance, hospital size, hospital age, and board size was tested using an f distribution test and ANOVA at the confidence interval

of alpha level of 5%. The null hypothesis stated that there was no significant statistical relationship between CEO duality, presence of physicians on governance boards, hospital size, hospital age, board size, and total margin of not-for-profit hospitals, meaning that all of the coefficients are zero. So,

$H1_{o:}\ a_1 = a_2 = a_3 = a_4 = a_5 = 0$

The alternative hypothesis stated that there was a positive, statistically significant relationship between CEO duality, presence of physicians on governance boards, and total margin of not-for-profit hospitals, meaning at least one of the variables belongs in the regression model or at least one a_i ($i = 1\dots 5$) is not zero. So,

$H1_a$: At least one a_i is not zero

The multiple regression analysis using the Enter procedure and Stepwise model was conducted to evaluate whether CEO duality, presence of physicians on governance board, hospital size, hospital age, and board size predict the total margin of the sampled not-for-profit hospitals. The multiple regression results are shown in Table 4 and Table 10. The multiple regression equation with total margin as the dependent variable is presented as follows:

TMARG = -0.022 - 0.007*DUAL + 0.006*PHYGOB + 0.024* HOSIZE –

0.068*HOSAGE – 0.01*BOSIZE + ε

The correlation matrix resulting from the multiple regression indicated that the independent variables were not highly correlated (Pearson correlation $r < .955$, $p > .05$). Thus, all of the independent variables were included in the analysis. Table 4 shows that the p value for CEO duality (DUAL), presence of physicians on board (PHYGOB),

hospital size (HOSIZE), and board size (BOSIZE) is >.05. Therefore, I cannot reject the null hypotheses that a_1, a_2, a_3, and a_5 are 0. Thus, CEO duality, presence of physicians on board, hospital size, and board size are statistically insignificant and cannot be used to predict the total margin (TMARG) of the sampled not-for-profit hospitals.

The hospital age (HOSAGE) is significantly related to the total margin (TMARG), $F (1, 146) = 4.277$, $p = .04 < .05$). The correlation coefficient was .220, and the hospital age accounts for 4.8 % of the variation in total margin. The constant, standardized errors, the standardized betas, and their significance value are summarized in Table 10.

Table 10

Bivariate and Parial Correlation of Predictors With Total Margin

Step 1		B	Std. Error	Beta
1	(Constant)	.062	.008	
	DUAL	-.006	.017	-.028
2	(Constant)	.044	.014	
	DUAL	-.007	.017	-.032
	PHYGOB	.005	.004	.125
3	(Constant)	-.035	.125	
	DUAL	-.007	.017	-.034
	PHYGOB	.005	.004	.116
	HOSIZE	.010	.015	.054
4	(Constant)	-.009	.124	
	DUAL	-.007	.017	-.033
	PHYGOB	.005	.004	.113
	HOSIZE	.023	.016	.125
	HOSAGE	-.073	.035	-.185
5	(Constant)	-.022	.125	
	DUAL	-.007	.017	-.034
	PHYGOB	.006	.004	.143
	HOSIZE	.024	.016	.135
	HOSAGE	-.068	.036	-.173**
	BOSIZE	-.001	.001	-.086

Note. $R^2 = .019$ for Step 4, $\Delta R^2 = .029$ for Step 5 $(p < .05)$. ** $p < .05$

CEO Duality, Presence of Physicians on Boards, Board Size, Hospital Size and Age,

and Operating Margin

Research Question 2 asked whether there was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, board size, hospital size and age, and operating margin of not-for-profit hospitals. The multiple regression equation model with the operating margin as the dependent variable and the CEO duality, and presence of physicians on boards, board size, hospital size, and age as the independent variables, and other control variables is below:

$OMARG = a_{10} + a_{11} DUAL + a_{12} PHYGOB + a_{13} HOSIZE + a_{14} HOSAGE + a_{15}$

$BOSIZE + \varepsilon$ Where

a_{10} = the intercept of the model,

DUAL = CEO duality,

PHYSGOB = physicians on governance board,

HOSIZE = hospital size,

HOSAGE = hospital age,

BOSIZE = board size,

$a_{11}...a_{15}$ = the beta coefficients of the regression model,

ε = a random error, and

OMARG = operating margin

The prediction of the outcome of operating margin by the weighted combination for CEO duality, and presence of physicians on governance was tested using f distribution test and ANOVA at the confidence interval of alpha level of 5%. The null hypothesis

stated that there was no significant statistical relationship between CEO duality, presence
of physicians on the governance boards, and operating margin of not-for-profit hospitals,
meaning that all of the coefficients are zero. So,

$H2_{o:}\ a_{11} = a_{12} = a_{13} = a_{14} = a_{15} = 0$

The alternative hypothesis stated that there was a positive, statistically significant
relationship between CEO duality, presence of physicians on governance boards, and
operating margin of not-for-profit hospitals, meaning at least one of the variables belongs
in the regression model or at least one a_i ($i = 11\ldots 15$) is not zero. So,

$H2_a$: At least one a_i is not zero

The multiple regression analysis using Enter procedure and Stepwise model was
conducted to evaluate whether CEO duality, presence of physicians on governance
boards, hospital size, hospital age, or board size predict the operating margin of the
sampled not-for-profit hospitals. The multiple regression results are shown in Table 5
(Model Summary-Operating Margin as Dependent Variable), and Tables 11. The
multiple regression equation with total margin as the dependent variable is presented as:

OMARG =0.015 - 0.009*DUAL + 0.004*PHYGOB + 0.016* HOSIZE −

0.054*HOSAGE − 0.00*BOSIZE + ε

The correlation matrix resulted from the multiple regression indicated that the
independent variables were not highly correlated (Pearson correlation $r < .955$, $p > .05$).
Thus, all of the independent variables were included in the analysis. Table 5 shows that
the p value for CEO duality (DUAL), presence of physicians on board (PHYGOB),
hospital size (HOSIZE), and board size (BOSIZE) is $>.05$. Therefore, I cannot reject the

null hypotheses that a_{11}, $a_{12,}$ a_{14}, and a_{15} are 0. Thus, CEO duality, presence of physicians on board, hospital size, and board size are statistically insignificant and cannot be used to predict the operating margin (OMARG) of the sampled not-for-profit hospitals.

The hospital age (HOSAGE) is significantly related to the operating margin (OMARG), $F (1, 140) = 5.303$, $p = .023 < .05$). The correlation coefficient was .239, and the hospital age accounts for 5.7% of the variation in operating margin. The constant, standardized errors, the standardized betas, and their significance values are summarized in Table 11.

Table 11

Bivariate and Parial Correlation of Predictors With Total Margin

Model		B	Std. Error	Beta
1	(Constant)	.055	.006	
	DUAL	-.008	.012	-.056
2	(Constant)	.042	.010	
	DUAL	-.009	.012	-.060
	PHYGOB	.004	.002	.129
3	(Constant)	.002	.087	
	DUAL	-.009	.012	-.061
	PHYGOB	.004	.002	.123
	HOSIZE	.005	.011	.039
4	(Constant)	.022	.086	
	DUAL	-.009	.012	-.061
	PHYGOB	.004	.002	.119
	HOSIZE	.015	.011	.118
	HOSAGE	-.056	.024	-.205
5	(Constant)	.015	.086	
	DUAL	-.009	.012	-.061
	PHYGOB	.004	.003	.143
	HOSIZE	.016	.011	.126
	HOSAGE	-.054	.025	-.195**
	BOSIZE	.000	.001	-.068

Note. $R^2 = .021$ for Step 4, $\Delta R^2 = .036$ for Step 5 ($p < .05$). ** $p < .05$

CEO Duality, Presence of Physicians on Boards, Board Size, Hospital Size and Age,

and Free Cash Flow

Research Question 3 asked whether there was a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, board size, hospital size, age, and free cash flow of not-for-profit hospitals. The multiple regression equation model with free cash flow as the dependent variable and the CEO duality, presence of physicians on boards, board size, hospital size, and age as the independent variables, and other control variables was:

$FCF = a_{20} + a_{21} DUAL + a_{22} PHYGOB + a_{23} HOSIZE + a_{24} HOSAGE + a_{25} BOSIZE + \varepsilon$

Where

a_{20} = the intercept of the model,

DUAL = CEO duality,

PHYSGOB = physicians on governance board,

HOSIZE = hospital size,

HOSAGE = hospital age,

BOSIZE = board size,

$a_{21}....a_{25}$ = the beta coefficients of the regression model,

ε = a random error, and

FCF = free cash flow

The prediction of the outcome of total margin by the weighted combination for CEO duality and presence of physicians on governance was tested using an f distribution test and ANOVA at the confidence interval of alpha level of 5%. The null hypothesis

stated that there was no significant statistical relationship between CEO duality, presence of physicians on governance boards, and free cash flow of not-for-profit hospitals, meaning that all of the coefficients are zero. So,

$H3_{o:}$ $a_{20} = a_{21} = a_{23} = a_{24} = a_{25} = 0$

The alternative hypothesis stated that there was a positive, statistically significant relationship between CEO duality, presence of physicians on governance boards, and free cash flow of not-for-profit hospitals, meaning at least one of the variables belongs in the regression model or at least one a_i ($i = 21 \dots 25$) is not zero. So,

$H3_a$: At least one a_i is not zero

The multiple regression analysis using the Enter procedure and Stepwise model was conducted to evaluate whether CEO duality, presence of physicians on governance board, hospital size, hospital age, and board size predict the free cash flow of the sampled not-for-profit hospitals. The multiple regression results are shown in Table 6 and Table 12. The multiple regression equation with total margin as the dependent variable is presented as:

FCF = 0.015 - 0.009*DUAL + 0.004*PHYGOB + 0.016* HOSIZE −

0.054*HOSAGE − 0.00*BOSIZE + ε

The correlation matrix resulting from the multiple regression indicated that the independent variables were not highly correlated (Pearson correlation $r < .955$, $p > .05$). Thus, all of the independent variables were included in the analysis. Table 6 shows that the p value for CEO duality (DUAL), presence of physicians on board (PHYGOB), hospital age (HOSAGE), and board size (BOSIZE) is $>.05$. Therefore, I cannot reject the

null hypotheses that a_{20}, $a_{21,}$ a_{24}, and a_{25} are 0. Thus, CEO duality, presence of physicians on board, hospital age, and board size are statistically insignificant and cannot be used to predict the free cash flow (FCF) of the sampled not-for-profit hospitals.

The hospital size (HOSIZE) is significantly related to the free cash flow (FCF), F $(1, 141) = 42.059$, $p < .01$). The correlation coefficient was .233, and the hospital age accounts for 21.7 % of the variation in free cash flow. The constant, standardized errors, the standardized betas, and their significance values are summarized in Table 12.

Table 12

Bivariate and Parial Correlation of Predictors With Total Margin

Step		*B*	Std. Error	Beta
1	(Constant)	1312779.496	250427.938	
	DUAL	182277.911	533079.264	.029
2	(Constant)	1061766.086	444930.774	
	DUAL	170656.919	534346.978	.027
	PHYGOB	75038.400	109844.117	.057
3	(Constant)	-20879763.074	3405888.922	
	DUAL	76973.486	470843.209	.012
	PHYGOB	-27941.635	98038.751	-.021
	HOSIZE	2701015.968	416482.693	.485
4	(Constant)	-20620381.550	3428841.002	
	DUAL	78309.903	471585.328	.012
	PHYGOB	-29333.442	98210.226	-.022
	HOSIZE	2829537.365	451190.333	.508
	HOSAGE	-729349.325	975858.854	-.060
5	(Constant)	-20438610.158	3459815.533	
	DUAL	78995.790	472900.749	.012
	PHYGOB	-47160.481	105454.694	-.036
	HOSIZE	2805875.399	455206.151	.504*
	HOSAGE	-793644.657	987979.728	-.065
	BOSIZE	10948.612	23156.692	.039

Note. $R^2 = .004$ for Step 3, $\Delta R^2 = .229$ for Step 4 ($p < .01$). * $p < .01$

Summary

The results showed that some of the independent variables identified in this study had significant impact on financial performance of not-for-profit hospitals. The findings of the study are summarized as follows:

1. No significant relationships were found between CEO duality, presence of physicians on governance boards, hospital size, board size, and total margin of not-for-profit hospitals. The results showed a significant relationship between hospital age and total margin of not-for-profit hospitals, although it was negative relationship.

2. No significant relationships were found between CEO duality, presence of physicians on the governance boards, hospital size, board size, and operating margin of not-for-profit hospitals. The results showed a significant relationship between hospital age and operating margin of not-for-profit hospitals.

3. No significant relationships were found between CEO duality, presence of physicians on the governance boards, hospital age, board size, and free cash flow of not-for-profit hospitals. The results showed a significant positive relationship between hospital size and free cash flow of not-for-profit hospitals.

The results of the study showed that hospital age and hospital size have an impact on the total margin and free cash flow of not-for-profit hospitals. Chapter 5 will present an overview of the study, its findings, implications, and suggestions for future researchers

in the field to pursue to investigate further other factors or variables that can impact the

financial performance of not-for-profit hospitals.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Good corporate governance is critical to the survival and growth of organizations. Due to immoral management and poor governance that have triggered corporate scandals and debacles as well as the recent global financial meltdown, both professionals and academics have searched more proactively for more appropriate corporate governance structures and thus have identified CEO duality as one of critical aspects of corporate governance of modern companies. Agency theorists and administrative theorists have divergent views of CEO duality. Agency theorists have argued that because executives and managers do not always act in the best interests of owners, but rather for their own benefits, CEO duality may lead to dominant CEOs who undermine the effectiveness and the independence of board of directors (Aguilera et al., 2008; Jensen & Meckling, 1976; Rechner & Dalton, 1991). Thus, CEOs may adversely affect organizational performance. In contrast, stewardship or administrative theorists have upheld the proposition that because executive and managers act for organizational objectives rather than for their personal agendas, CEO duality allows CEOs to lead organizations with unified authority and unambiguous leadership, resulting in improved performance for organizations (Boyd, 1995; Carty, 2012; David et al., 1997; Kang & Zardkoohi, 2005; Nicholson & Kiel 2007).

The opposing views between agency and stewardship theories have stimulated scientists to conduct research for more than 2 decades to examine the influences of CEO duality and other board characteristics on organizational performance. However, the

results have been ambiguous. Moreover, researchers have not conducted empirical

studies to understand the effects of CEO duality on the organizational performance of

hospitals, especially of not-for-profit hospitals. Considering the economic size, potential

impacts on society and people, and unique nature and challenges of not-for-profit

hospitals, an appropriate and effective healthcare governance board is integral to their

survival and growth.

In this study, I examined the effects of CEO duality, the presence of physicians on

healthcare governance boards, hospital size, hospital age, and board size on not-for-profit

hospitals' financial performance, as measured by total margin, operating margin, and free

cash flow. Comparing and contrasting the outcomes of past research studies grounded in

the divergent views of agency and stewardship theories, this study reconciled these views

with the argument that the agency and stewardship theories could work complementarily,

thus serving as the theoretical framework that guided the study. In addition, I

hypothesized that CEO duality and clinical governance as perceived attributes of

effective healthcare governance would improve financial performance of not-for-profit

hospitals.

I used a screening process and a simple random sampling process to choose 146

not-for-profit hospitals from comprehensive public databases and websites of OSHPD.

This office administers financial reports and governance information of more than 4,840

healthcare organizations comprising of hospitals, long-terms care facilities, home health

and hospice, and primary and specialty clinics in the State of California. Other relevant

board governance and hospital information was obtained from the website of each

sampled hospital. The research questions sought to establish whether there was linear relationship between CEO duality, presence of physicians on healthcare governance boards, hospital size, hospital age, and board size, and financial performance of not-for-profit hospitals. In measuring CEO duality, the independent variable, I assigned 1 to the hospitals whose CEOs were also the chairpersons of their governance boards. Otherwise, a 0 was assigned. To measure the second independent variable, the presence of physicians on the governance board, a value of 1 was assigned for each doctor serving on governance boards of hospitals. A 0 was assigned when no physician was present on the board. Financial performance was measured using operating margin, total margin, and total cash free of the selected hospitals. Hospital age, hospital size, and board size were collected from the website of hospitals and incorporated in the multiple linear regression models examining the relationship between the variables of interest.

The results of the study showed that, as measured by total margin and operating margin, CEO duality, presence of physicians on the governance boards, hospital size, and board size have no relationship to financial performance of not-for-profit hospitals. However, the results indicated hospital age is negatively significantly related to financial performance of not-for-profit hospitals, as measured by total margin and operating margin. When measuring free cash flow of not-for-profit hospitals, the results suggested that CEO duality, presence of physicians on governance boards, hospital age, and board size have no relationship with financial performance. However, the results indicated hospital size is positively and significantly related to financial performance of not-for-profit hospitals, as measured by free cash flow.

Interpretation of Findings

In this dissertation, I sought to answer the following research questions:

Research Question 1: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and total margin of not-for-profit hospitals?

Research Question 2: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and operating margin of not-for-profit hospitals?

Research Question 3: Was there a positive, statistically significant relationship between CEO duality, presence of physicians on the governance board, hospital age, hospital size, board size, and free cash flow of not-for-profit hospitals?

CEO Duality, Presence of Physicians on Boards, Hospital Age, Hospital Size, Board Size, and Total Margin

Considering that extensive past studies have been done to examine the relationship between CEO duality and firm performance across industries, that empirical results of these studies have not been conclusive, and that CEO duality and firm performance are contextually specific to each type of industry, I sought to examine effects of CEO duality on financial performance of not-for-profit hospitals. Based on literature review, my rationale was that the CEO duality is good for governance boards of not-for-profit hospitals because with specialized knowledge, CEOs who also serve as chairpersons of director boards comprised primarily of volunteers will have a positive

influence on the performance of the hospitals. However, as indicated by the statistical test results presented in Chapter 4, CEO duality was not significantly related to financial performance of not-for-profit hospitals, as measured by total margin. Although I did not reach a conclusion consistent with my hypothesized outcomes, the results of the CEO duality effects of this study were consistent with conclusions of some past studies that CEO duality had no relationship to organizational performance.

As presented in the literature review of this dissertation, some healthcare scholars argued that because an effective healthcare board needs to execute both corporate and clinical governance, physicians serving on boards would provide effective governance. Therefore, I hypothesized that having doctors as healthcare board members could be positively related to financial performance of the not-for-profit hospitals. However, the results of this study suggested that the presence of physicians on governance boards was not significantly related to financial performance, as measured by total margin. Although I did not reach a conclusion consistent with my hypothesized prediction, the finding that presence of doctors on governance board is not related to organizational performance can be considered an incremental contribution to the field because I have not found any study examining the relationship between having doctors on boards and financial performance.

Past studies suggested that the size of an organization could have a positive influence on organizational performance. Moreover, a small board would not have adequate numbers of board members to fulfill diverse responsibilities. In contrast, large boards tend to succumb to inefficiency due to too divergent views for making effective decisions. The results of this study regarding the effects of hospital size and board size

did not confirm the preceding conclusions. Based on the results of the statistical test, I did

not find any significant relationship between hospital size, board size, and financial

performance, as measured by total margin.

Hospital age plays a role in the efficiency of organizations because older hospitals

tend be more efficient than younger hospitals. Therefore, I expected there would be

positive significantly relationship between hospital age and financial performance.

However, the results of the study showed the opposite outcome, suggesting that hospital

age is significantly negatively related to financial performance. The negative relationship

between hospital age and financial performance may be explained by suggesting that

when a hospital exists for a long time, it can become bigger and develop high

expenditures, thus reducing net income and consequently decreasing its total margin.

CEO Duality, Presence of Physicians on Boards, Hospital Age, Hospital Size, Board

Size, and Operating Margin

Based on the literature review and rationale discussed in Chapter 2 that the effects

of CEO duality on firm performance can be contextually dependent on the type of

industry, and that CEO duality may provide a positive influence on performance of not-

for-profit hospitals, I expected there would be a significant relationship between CEO

duality and financial performance of hospitals. However, the statistical test results

presented in Chapter 4 showed CEO duality on hospital governance boards was not

significantly related to financial performance of not-for-profit hospitals, as measured by

operating margin. Although the conclusion does not match the hypothesized outcomes,

the results of CEO duality effects of this study were consistent with the conclusions of

some past studies that CEO duality had no relationship with organizational performance (Baliga et al., 1996; David & Dalton, 1993; Krause et al., 2013; Lawal, 2013; Shukeri, 2012).

Moreover, this study also shows that having physicians on hospital governance boards may not always affect the financial performance of not-for-profit hospitals. As measured by operating margin, the results of this study did not confirm the predicted outcomes that organization size and board size would have positive effects on the financial performance. Nevertheless, the results of the study suggested hospital age is significantly negatively related to financial performance, which is the opposite of the predicted conclusion that hospital age would have positive effects on financial performance when using operating margin as a financial indicator. As operating margin is measured using total operating expenses, it is possible that when hospitals have been in business for a long time, they can grow bigger in size and number of employees and eventually incur high expenditures, causing high total operating expenses, and thus reducing operating margin. This negative relationship between higher operating expenditure and lower operating margin when organizations grow bigger perhaps explains the negative relationship between hospital age and financial performance as measured by operating margin.

CEO Duality, Presence of Physicians on Boards, Hospital Age, Hospital Size, Board Size, and Free Cash Flow

Through the literature review presented in Chapter 2, I postulated that there would be a significant relationship between CEO duality, presence of physicians on hospital

governance boards, and the financial performance of hospitals, as measured by total cash

free. The rationale for this assumption is that CEO duality and presence of physicians on

board governance may facilitate an effective performance of not-for-profit hospitals.

However, as the statistical test results presented in Chapter 4 indicated, CEO duality and

presence of physicians on hospital governance boards were not significantly related to

free cash flow. It is important to note that although this finding differs from the

hypothesized claim, the results that CEO duality had no relationship to financial

indicators of total cash free of not-for-profit hospitals was consistent with conclusions of

some past studies that CEO duality had no relationship with organizational performance

across industries (Baliga et al., 1996; David & Dalton, 1993; Krause et al., 2013; Lawal,

2013; Shukeri, 2012).

Similarly, the results also suggested that having physicians on hospital

governance boards may not have any impact on total cash free of not-for-profit hospitals.

As measured by free cash flow, board size was not significantly related to financial

performance. There was evidence in the literature that an inefficient board or a board

with divergent views may not have any impact on financial performance of an

organization. Because free cash flow was calculated by subtracting the change in net

assets plus interest and noncash expenses from the investments in fixed assets and net

working capital, I expected that old or new hospitals may have varied investment and

working capitals used for growth opportunities. However, the results showed otherwise,

suggesting that hospital age was not related to free cash flow. Importantly, the finding

that there was a significantly positive relationship between hospital size and free cash

flow of not-for-profit hospitals was consistent with the fact that bigger organizations have larger total assets, which is often used to calculate the size of an organization.

Other Interpretations

According to Monks and Minow (2008), 54% of American companies practiced CEO duality. Recently, Abels and Martelli (2011) provided an update regarding CEO duality and suggested the percentage of companies with CEO duality governance structures has increased to 61%. Based on the descriptive analysis presented in Chapter 4 of this study, 23% of the sampled not-for-profit hospitals had CEOs who also held chairperson positions of the governance boards. I did not reach the conclusion that CEO duality had a positive influence on financial performance, as measured by total margin or operating margin, or free cash flow. However, CEO duality can be good for governance boards of not-for-profit hospitals because of the specialized knowledge of CEOs, which may result in greater sharing of information and opportunities and reduced coordination costs (Brickley et al., 1997), and the overall trend of increased adoption of CEO duality among companies (Abels & Martelli, 2011). Therefore, I anticipate that the number of not-for-hospitals having CEO duality will likely increase in the future.

Study results presented in Chapter 4 showed that, on average, the sampled not-for-hospitals had more than three physicians (mean = 3.38) on their governance boards. The average number of physicians present on hospital boards in this study is consistent with the fact that healthcare boards in the United States tend to have two to three doctors as board members (Orlikoff & Totten, 2006). Moreover, the results of this study showed that 99% (145 out of 146) of sampled hospitals had physicians serving on their

governance boards. However, only 67% of healthcare organizations reported the presence of physicians serving on their boards in the survey by the United States Center for Healthcare Governance (Bennington, 2010). The much higher number of hospitals bringing physicians to their boards in this study may suggest that in reality hospitals have more actively recruited physicians to serve on their governance boards.

The results showed that, on average, governance boards had 17 members, and most hospitals had between 11 and 20 members. These data confirm that an effective hospital board size should be eight to 20 members and not more than 20 members in order for the board to have an adequate number of members to fulfill responsibilities (Moody's Investor Service, 2014) and to promote efficiency (Chubb Group of Insurance Companies, 2014).

Limitations of the Study

This study had limitations. The primary limitation was the use of secondary data, which were not originally collected for the purpose of this study. This is a potential problem because secondary data only approximate the kind of data intended for testing the proposed hypotheses. Using secondary data can potentially introduce errors to the conclusions and the generalization of this study. The second limitation was that triangulation of data to reduce the potential error, thus enhancing the accuracy of the outcomes of the study, was not possible. All the financial data and other relevant data of the sampled not-for-profit hospitals were collected only from the Excel files available on the websites and databases of California OSHPD and the website of each hospital.

Another limitation is related to possibly missing of relevant variables that may generate different outcomes or may change the findings of this study. Variables relevant to corporate governance constructs, such as organizational leverage, market environments, board independence, and organizational identification of CEO, were not included in the regression model used in the research design and the analysis of this study. Moreover, the outcomes of this study cannot be generalized to all not-for-profit hospitals in the United States and worldwide because the not-for-profit hospitals were sampled in the list of all hospitals operating in the State of California. Perhaps, future researchers can contribute to the field by studying hospitals in other states rather than California.

Recommendations for Further Study

First, because triangulation of data was not possible in this study, to enhance the accuracy of the outcome of this study and reduce potential errors, other researchers can collect and compare archived data from other databases or websites that may store the same financial reports of the hospitals listed in the OSHPD database. Second, future researchers can investigate the effects of other variables relevant to corporate governance constructs on the financial performance of not-for-profit hospitals. For instance, research questions examining whether organizational leverage, market environments, board independence, and organizational identification of CEO affect the financial indicators of not-for-profit hospitals in California or in the United States of America would be worthwhile to answer. Using triangulation of data, other relevant variables, and perhaps

other corporate governance mechanisms or constructs could generate new research findings.

The financial indicators included in the statistical model used for the analysis of this study were only the total margin, the operating margin, and the free cash flow. Future researchers can investigate the effects of CEO duality, presence of physicians, and other independent variables relevant in this study on other financial performance indicators such as Approximate Tobin's q, return on equity (ROE), return on assets (ROA), Z score, and liquidity ratios (current ratios, quick ratios, and cash ratios).

This study analyzed financial data available in OSHPD database of California for the period of 2009 to 2012. OSHPD is a comprehensive database that stores governance and financial data covering report periods from 1995 to 2013. This study can be expanded using a more comprehensive methodology by analyzing financial data covering a report period longer than 4 years (2009-2012) as the outcomes may suggest new findings.

The OSHPD also contains information and financial data of other for-profit and not-for-profit healthcare organizations, including long-term care facilities, primary care and special clinics, home health and hospice, and professional providers. It would be a worthy effort to duplicate this study with other not-for-profit healthcare organizations listed in the OSHPD, beyond not-for-profit hospitals. Moreover, because this study focused on not-for-profit hospitals, future researchers may want to study for-profit hospitals listed in the OSHPD.

The implications of CEO duality and the presence of physicians on governance boards can be significant for the overall performance rather than simply the financial performance for not-for-profit hospitals. Because this study used the archived data and focused on measurement of financial performance, a recommendation for further research regarding the effects of CEO duality and presence of physicians on boards on other performance measurements of not-for-profit hospitals, such as employee satisfaction and development, leadership development, clinical governance, community services, and other charity efforts. This can be accomplished using research methodologies such as surveys and interviews.

In addition, the outcomes of this study can be applied only to not-for-profit hospitals providing healthcare in the State of California. It would be beneficial to further this study by using more comprehensive data so that the outcomes can be generalized to all not-for-profit hospitals operating in the United States and worldwide.

Implications for Social Change

This study is different from past studies examining corporate governance and financial performance. No prior researchers examined specifically the implication of CEO duality, the presence of physicians, other characteristics pertaining to hospital size and age, and board size on the financial performance of healthcare organizations, especially not-for-profit hospitals. Moreover, in addition to corporate governance, successful healthcare governance boards will need to incorporate clinical governance as part of their functions to monitor and transform their organizations (Colin-Thome, 2013). This study furthers the investigation of the governance effects on financial performance

by considering of the role of clinical governance provided by physicians serving on hospital governance boards. By examining the effects of CEO duality and exploring the impacts of the presence of physicians on governance boards, this study was an attempt to generate results that might provide insights for not-for-profit hospitals to become successful and efficient with their governance and financial management, thus enhancing their organizational effectiveness to commit to charitable missions of community services and transformation of local communities and societies.

Although initiated and mainly applied to corporations, the implementation of the Sarbanes-Oxly Act of 2002 has affected not-for-profit hospitals in meeting external regulations and adopting appropriate board governance structures (Greene, 2005). The results of this study can assist not-for-profit hospitals or their administrators to justify and explain why they opt to operate with current governance structures. Specifically, as presented in Chapter 4, the outcomes of this study suggested that not-for-profit hospitals can choose to operate with or without CEO duality and with or without physicians serving as members of hospital boards. It is important for administrators of not-for-profit hospitals to understand that while board size does not affect total margins, operating margins, or free cash flow, hospital size and hospital age do affect financial performance.

Conclusions

Good corporate governance is critical to the growth and sustainability of modern corporations. Some companies operate with a governance structure in which the CEO is also the chairperson of the board of directors, a structure called CEO duality. Some researchers argued against CEO duality because they posited that when acting as CEO

and chairperson of corporate board, a CEO might become too powerful and adversely influence the monitoring function of the board. Therefore, CEO duality can potentially interfere with a board's effectiveness in governing the organization and evaluating the performance of the top executive team, negatively affecting organizational performance (Aguilera et al., 2008; Jensen & Meckling, 1976; Rechner & Dalton, 1991). In contrast, other researchers considered CEO duality as a way to allow executive teams to manage organizations with clear and unambiguous leadership and facilitate an effective communication between shareholders, boards of directors, and managers (Boyd, 1995; David et al., 1997; Kang & Zardkoohi, 2005; Nicholson & Kiel 2007). Therefore, CEO duality may help lead to a system that is more effective and efficient in reaching organizational objectives and financial performance.

For more than two decades, researchers have focused substantial work on the influences of roles, size, structure, composition of boards, and CEO duality on firm performance and still generated ambiguous results (Krause, 2013; Lawal, 2012). However, no researchers have examined specifically the relationship between CEO duality and financial performance of not-for-profit hospitals. The focus of this study was to fill this gap. Furthermore, this study is different from other studies in that it included an exploration of the impact of the presence of physicians on governance boards.

The outcomes of this study are consistent with the results generated by other studies that CEO duality had no relationship with organizational performance. Specifically, I found CEO duality and presence of physicians on boards were not related to financial performance of not-for-profit hospitals. As not-for-profit hospitals are

integral to the healthcare system and the well-being of people and communities, it is

important for these not-for-profit organizations to operate with efficiency, sustainability,

and with a desired governance structure. The results of this study suggest that not-for-

profit hospitals can choose to operate without having a CEO duality governance structure

and that the presence of physicians on boards may not be necessary for improving

financial performance.

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Appendix A: List of Not-For-Profit Hospitals

Order Sequence	Facility Number	Hospitals' Name
1	106400466	ARROYO GRANDE COMMUNITY HOSPITAL
2	106150722	BAKERSFIELD MEMORIAL HOSPITAL
3	106184008	BANNER LASSEN MEDICAL CENTER
4	106190052	BARLOW HOSPITAL
5	106090793	BARTON MEMORIAL HOSPITAL
6	106330120	BETTY FORD CENTER OF EISENHOWER
7	106190081	BEVERLY HOSPITAL
8	106010776	CHILDRENS HOSPITAL & RESEARCH CENTER AT OAKLAND
9	106304113	CHILDREN'S HOSPITAL AT MISSION
10	106204019	CHILDREN'S HOSPITAL CENTRAL CALIFORNIA
11	106190170	CHILDREN'S HOSPITAL OF LOS ANGELES
12	106300032	CHILDREN'S HOSPITAL OF ORANGE COUNTY
13	106190636	CITRUS VALLEY MEDICAL CENTER - QV CAMPUS
14	106190176	CITY OF HOPE HELFORD CLINICAL RESEARCH HOSPITAL
15	106100005	CLOVIS COMMUNITY MEDICAL CENTER
16	106361323	COMMUNITY HOSPITAL OF SAN BERNARDINO
17	106270744	COMMUNITY HOSPITAL OF THE MONTEREY PENINSULA
18	106560473	COMMUNITY MEMORIAL HOSPITAL - SAN BUENAVENTURA
19	106100717	COMMUNITY REGIONAL MEDICAL CENTER
20	106390846	DAMERON HOSPITAL
21	106440755	DOMINICAN SANTA CRUZ HOSPITAL - SOQUEL
22	106190243	DOWNEY REGIONAL MEDICAL CENTER
23	106196168	EARL & LORRAINE MILLER CHILDRENS HOSPITAL
24	106010805	EDEN MEDICAL CENTER
25	106331168	EISENHOWER MEDICAL CENTER
26	106430763	EL CAMINO HOSPITAL
27	106500867	EMANUEL MEDICAL CENTER
28	106190280	ENCINO HOSPITAL MEDICAL CENTER
29	106040962	ENLOE MEDICAL CENTER - ESPLANADE CAMPUS
30	106040875	FEATHER RIVER HOSPITAL
31	106190298	FOOTHILL PRESBYTERIAN HOSPITAL
32	106400480	FRENCH HOSPITAL MEDICAL CENTER

33	106270777	GEORGE L. MEE MEMORIAL HOSPITAL
34	106190323	GLENDALE ADVENTIST MEDICAL CENTER
35	106190522	GLENDALE MEMORIAL HOSPITAL AND HEALTH CENTER
36	106420483	GOLETA VALLEY COTTAGE HOSPITAL
37	106190392	GOOD SAMARITAN HOSPITAL- LA
38	106160725	HANFORD COMMUNITY HOSPITAL
39	106190949	HENRY MAYO NEWHALL MEMORIAL HOSPITAL
40	106301205	HOAG MEMORIAL HOSPITAL PRESBYTERIAN
41	106190400	HUNTINGTON MEMORIAL HOSPITAL
42	106380842	JEWISH HOME
43	106071018	JOHN MUIR MEDICAL CENTER-CONCORD CAMPUS
44	106070988	JOHN MUIR MEDICAL CENTER-WALNUT CREEK CAMPUS
45	106196404	JOYCE EISENBERG KEEFER MEDICAL CENTER
46	106361246	LOMA LINDA UNIVERSITY MEDICAL CENTER
47	106190525	LONG BEACH MEMORIAL MEDICAL CENTER
48	106434040	LUCILE SALTER PACKARD CHILDREN'S HOSPITAL AT STANFORD
49	106201281	MADERA COMMUNITY HOSPITAL
50	106420493	MARIAN MEDICAL CENTER
51	106211006	MARIN GENERAL HOSPITAL
52	106090933	MARSHALL MEDICAL CENTER
53	106500939	MEMORIAL HOSPITAL MODESTO
54	106340947	MERCY GENERAL HOSPITAL
55	106150761	MERCY HOSPITAL - BAKERSFIELD
56	106344029	MERCY HOSPITAL - FOLSOM
57	106450949	MERCY MEDICAL CENTER
58	106240942	MERCY MEDICAL CENTER MERCED-COMMUNITY CAMPUS
59	106340950	MERCY SAN JUAN HOSPITAL
60	106340951	METHODIST HOSPITAL OF SACRAMENTO
61	106190529	METHODIST HOSPITAL OF SOUTHERN CALIFORNIA
62	106190524	MISSION COMMUNITY HOSPITAL - PANORAMA CAMPUS
63	106301262	MISSION HOSPITAL REGIONAL MEDICAL CENTER
64	106361166	MONTCLAIR HOSPITAL MEDICAL CENTER
65	106190552	MOTION PICTURE & TELEVISION HOSPITAL
66	106481357	NORTH BAY MEDICAL CENTER
67	106190568	NORTHRIDGE HOSPITAL MEDICAL CENTER
68	106430837	O'CONNOR HOSPITAL
69	106410852	PENINSULA MEDICAL CENTER

70	106190630	POMONA VALLEY HOSPITAL MEDICAL CENTER
71	106190631	PRESBYTERIAN INTERCOMMUNITY HOSPITAL
72	106281047	QUEEN OF THE VALLEY HOSPITAL
73	106370673	RADY CHILDREN'S HOSPITAL - SAN DIEGO
74	106361308	REDLANDS COMMUNITY HOSPITAL
75	106580996	RIDEOUT MEMORIAL HOSPITAL
76	106150782	RIDGECREST REGIONAL HOSPITAL
77	106190796	RONALD REAGAN UCLA MEDICAL CENTER
78	106361318	SAN ANTONIO COMMUNITY HOSPITAL
79	106150788	SAN JOAQUIN COMMUNITY HOSPITAL
80	106420514	SANTA BARBARA COTTAGE HOSPITAL
81	106190687	SANTA MONICA-UCLA MEDICAL CENTER & ORTHOPAEDIC HOSPITAL
82	106491064	SANTA ROSA MEMORIAL HOSPITAL
83	106371256	SCRIPPS GREEN HOSPITAL
84	106371394	SCRIPPS MEMORIAL HOSPITAL - ENCINITAS
85	106370771	SCRIPPS MEMORIAL HOSPITAL-LA JOLLA
86	106370744	SCRIPPS MERCY HOSPITAL
87	106410891	SEQUOIA HOSPITAL
88	106410817	SETON MEDICAL CENTER
89	106370875	SHARP CHULA VISTA MEDICAL CENTER
90	106370689	SHARP CORONADO HOSPITAL & HEALTHCARE CENTER
91	106370714	SHARP GROSSMONT HOSPITAL
92	106370694	SHARP MEMORIAL HOSPITAL
93	106370745	SHARP MESA VISTA HOSPITAL
94	106190708	SHERMAN OAKS HOSPITAL & HEALTH CENTER
95	106344114	SHRINERS HOSPITALS FOR CHILDREN NORTHERN CALIFORNIA
96	106291023	SIERRA NEVADA MEMORIAL HOSPITAL
97	106560525	SIMI VALLEY HOSPITAL & HEALTH CARE SERVICES - SYCAMORE
98	106554011	SONORA REGIONAL MEDICAL CENTER-GREENLEY
99	106100899	ST. AGNES MEDICAL CENTER
100	106361339	ST. BERNARDINE MEDICAL CENTER
101	106521041	ST. ELIZABETH COMMUNITY HOSPITAL
102	106190754	ST. FRANCIS MEDICAL CENTER
103	106380960	ST. FRANCIS MEMORIAL HOSPITAL
104	106281078	ST. HELENA HOSPITAL
105	106190756	ST. JOHN'S HEALTH CENTER
106	106560508	ST. JOHN'S PLEASANT VALLEY HOSPITAL

107	106560529	ST. JOHN'S REGIONAL MEDICAL CENTER
108	106121080	ST. JOSEPH HOSPITAL - EUREKA
109	106301340	ST. JOSEPH HOSPITAL - ORANGE
110	106391042	ST. JOSEPH'S MEDICAL CENTER OF STOCKTON
111	106301342	ST. JUDE MEDICAL CENTER
112	106434138	ST. LOUISE REGIONAL HOSPITAL
113	106190053	ST. MARY MEDICAL CENTER
114	106190053	ST. MARY MEDICAL CENTER - LONG BEACH
115	106190053	ST. MARY MEDICAL CENTER - LOS ANGELES
116	106380965	ST. MARY'S MEDICAL CENTER-SAN FRANCISCO
117	106010967	ST. ROSE HOSPITAL
118	106190762	ST. VINCENT MEDICAL CENTER
119	106430905	STANFORD UNIVERSITY HOSPITAL
120	106034002	SUTTER AMADOR HOSPITAL
121	106310791	SUTTER AUBURN FAITH HOSPITAL
122	106084001	SUTTER COAST HOSPITAL
123	106574010	SUTTER DAVIS HOSPITAL
124	106070934	SUTTER DELTA MEDICAL CENTER
125	106444012	SUTTER MATERNITY & SURGERY CENTER OF SANTA CRUZ
126	106341051	SUTTER MEDICAL CENTER - SACRAMENTO
127	106490919	SUTTER MEDICAL CENTER OF SANTA ROSA
128	106311000	SUTTER ROSEVILLE MEDICAL CENTER
129	106481094	SUTTER SOLANO MEDICAL CENTER
130	106391056	SUTTER TRACY COMMUNITY HOSPITAL
131	106190782	TARZANA TREATMENT CENTER
132	106190422	TORRANCE MEMORIAL MEDICAL CENTER
133	106190159	TRI-CITY REGIONAL MEDICAL CENTER
134	106381154	UCSF MEDICAL CENTER
135	106231396	UKIAH VALLEY MEDICAL CENTER - HOSPITAL DRIVE
136	106370782	UNIVERSITY OF CALIF - SAN DIEGO MEDICAL CENTER
137	106341006	UNIVERSITY OF CALIFORNIA DAVIS MEDICAL CENTER
138	106301279	UNIVERSITY OF CALIFORNIA IRVINE MEDICAL CENTER
139	106194219	USC UNIVERSITY HOSPITAL
140	106484001	VACA VALLEY HOSPITAL
141	106190812	VALLEY PRESBYTERIAN HOSPITAL
142	106014050	VALLEYCARE MEDICAL CENTER
143	106190818	VERDUGO HILLS HOSPITAL
144	106361370	VICTOR VALLEY COMMUNITY HOSPITAL

| 145 | 106190878 | WHITE MEMORIAL MEDICAL CENTER |
| 146 | 106571086 | WOODLAND MEMORIAL HOSPITAL |

Appendix B: Hospitals and Websites

Hospital Name	Websites
ARROYO GRANDE COMMUNITY HOSPITAL	http://www.arroyograndehospital.org
BAKERSFIELD MEMORIAL HOSPITAL	http://www.bakersfieldmemorial.org
BANNER LASSEN MEDICAL CENTER	http://www.BannerHealth.com
BARLOW HOSPITAL	http://barlowhospital.org
BARTON MEMORIAL HOSPITAL	http://www.bartonhealth.org
BETTY FORD CENTER OF EISENHOWER	http://www.emc.org/body.cfm?id=140
BEVERLY HOSPITAL	http://Beverly.org
CHILDRENS HOSPITAL & RESEARCH CENTER AT OAKLAND	http://www.childrenshospitaloakland.org
CHILDREN'S HOSPITAL AT MISSION	http://www.choc.org
CHILDREN'S HOSPITAL CENTRAL CALIFORNIA	http://www.childrenscentralcal.org
CHILDREN'S HOSPITAL OF LOS ANGELES	http://www.childrenshospitalla.org
CHILDREN'S HOSPITAL OF ORANGE COUNTY	http://www.choc.org
CITRUS VALLEY MEDICAL CENTER - QV CAMPUS	http://cvhp.org
CITY OF HOPE HELFORD CLINICAL RESEARCH HOSPITAL	http://www.coh.org
CLOVIS COMMUNITY MEDICAL CENTER	http://www.communitymedical.org/
COMMUNITY HOSPITAL OF SAN BERNARDINO	http://www.chsb.org
COMMUNITY HOSPITAL OF THE MONTEREY PENINSULA	http://www.chsb.org
COMMUNITY MEMORIAL HOSPITAL - SAN BUENAVENTURA	http://www.cmhshealth.org
COMMUNITY REGIONAL MEDICAL CENTER	http://www.communitymedical.org
DAMERON HOSPITAL	http://www.cmhshealth.org
DOMINICAN SANTA CRUZ HOSPITAL - SOQUEL	http://www.dominicanhospital.org
DOWNEY REGIONAL MEDICAL CENTER	http://www.drmci.org
EARL & LORRAINE MILLER CHILDRENS HOSPITAL	http://www.memorialcare.org
EDEN MEDICAL CENTER	http://edenmedcenter.org
EISENHOWER MEDICAL CENTER	http://www.emc.org
EL CAMINO HOSPITAL	http://www.elcaminohospital.org
EMANUEL MEDICAL CENTER	http://www.emanuelmedicalcenter.org
ENCINO HOSPITAL MEDICAL CENTER	http://www.encinomed.com
ENLOE MEDICAL CENTER - ESPLANADE CAMPUS	http://www.enloe.org
FEATHER RIVER HOSPITAL	http://www.frhosp.org
FOOTHILL PRESBYTERIAN HOSPITAL	http://cvhp.org
FRENCH HOSPITAL MEDICAL CENTER	http://www.frenchmedicalcenter.org
GEORGE L. MEE MEMORIAL HOSPITAL	http://www.meememorial.com
GLENDALE ADVENTIST MEDICAL CENTER	http://www.glendaleadventist.com

GLENDALE MEMORIAL HOSPITAL AND HEALTH CENTER	http://www.glendalememorialhospital.org
GOLETA VALLEY COTTAGE HOSPITAL	http://www.cottagehealthsystem.org
GOOD SAMARITAN HOSPITAL- LA	http://www.goodsam.org
HANFORD COMMUNITY HOSPITAL	http://www.adventisthealthcv.com
HENRY MAYO NEWHALL MEMORIAL HOSPITAL	http://www.henrymayo.com
HOAG MEMORIAL HOSPITAL PRESBYTERIAN	http://www.Hoaghospital.org
HUNTINGTON MEMORIAL HOSPITAL	http://www.huntingtonhospital.com
JEWISH HOME	http://jhsf.org
JOHN MUIR MEDICAL CENTER-CONCORD CAMPUS	http://www.johnmuirhealth.com
JOHN MUIR MEDICAL CENTER-WALNUT CREEK CAMPUS	http://www.johnmuirhealth.com
JOYCE EISENBERG KEEFER MEDICAL CENTER	http://www.jha.org
LOMA LINDA UNIVERSITY MEDICAL CENTER	http://www.lomalindahealth.org
LONG BEACH MEMORIAL MEDICAL CENTER	http://www.memorialcare.org
LUCILE SALTER PACKARD CHILDREN'S HOSPITAL AT STANFORD	http://www.lpch.org
MADERA COMMUNITY HOSPITAL	http://www.maderahospital.org
MARIAN MEDICAL CENTER	http://www.marianmedicalcenter.org
MARIN GENERAL HOSPITAL	http://www.maringeneral.org
MARSHALL MEDICAL CENTER	http://marshallmedical.org
MEMORIAL HOSPITAL MODESTO	http://memorialmedicalcenter.org
MERCY GENERAL HOSPITAL	http://www.mercygeneral.org
MERCY HOSPITAL - BAKERSFIELD	http://www.mercybakersfield.org
MERCY HOSPITAL - FOLSOM	http://www.mercyfolsom.org
MERCY MEDICAL CENTER	http://www.mercymercedcares.org
MERCY MEDICAL CENTER MERCED-COMMUNITY CAMPUS	http://www.mercymercedcares.org
MERCY SAN JUAN HOSPITAL	http://www.mercysanjuan.org
METHODIST HOSPITAL OF SACRAMENTO	http://www.methodistsacramento.org
METHODIST HOSPITAL OF SOUTHERN CALIFORNIA	http://www.methodisthospital.org
MISSION COMMUNITY HOSPITAL - PANORAMA CAMPUS	http://mchonline.org
MISSION HOSPITAL REGIONAL MEDICAL CENTER	http://www.mission4health.com
MONTCLAIR HOSPITAL MEDICAL CENTER	http://www.montclair-hospital.org
MOTION PICTURE & TELEVISION HOSPITAL	http://www.mptvfund.org
NORTH BAY MEDICAL CENTER	http://www.northbay.org
NORTHRIDGE HOSPITAL MEDICAL CENTER	http://www.northridgehospital.org
O'CONNOR HOSPITAL	http://www.oconnorhospital.org
PENINSULA MEDICAL CENTER	http://www.mills-peninsula.org
POMONA VALLEY HOSPITAL MEDICAL CENTER	http://www.pvhmc.org

PRESBYTERIAN INTERCOMMUNITY HOSPITAL	http://www.whittierpres.com
QUEEN OF THE VALLEY HOSPITAL	http://www.thequeen.org
RADY CHILDREN'S HOSPITAL - SAN DIEGO	http://www.rchsd.org
REDLANDS COMMUNITY HOSPITAL	http://www.redlandshospital.org
RIDEOUT MEMORIAL HOSPITAL	http://www.frhg.org
RIDGECREST REGIONAL HOSPITAL	http://www.rrh.org
RONALD REAGAN UCLA MEDICAL CENTER	http://uclahealth.org
SAN ANTONIO COMMUNITY HOSPITAL	http://www.sach.org
SAN JOAQUIN COMMUNITY HOSPITAL	http://www.sanjoaquinhospital.org
SANTA BARBARA COTTAGE HOSPITAL	http://www.cottagehealthsystem.org
SANTA MONICA-UCLA MEDICAL CENTER & ORTHOPAEDIC HOSPITAL	http://uclahealth.org
SANTA ROSA MEMORIAL HOSPITAL	http://stjosephhealth.org
SCRIPPS GREEN HOSPITAL	http://www.scripps.org
SCRIPPS MEMORIAL HOSPITAL - ENCINITAS	http://www.scripps.org
SCRIPPS MEMORIAL HOSPITAL-LA JOLLA	http://www.scripps.org
SCRIPPS MERCY HOSPITAL	http://www.scripps.org
SEQUOIA HOSPITAL	http://www.sequoiahospital.org
SETON MEDICAL CENTER	http://www.setonmedicalcenter.org
SHARP CHULA VISTA MEDICAL CENTER	http://www.sharp.com
SHARP CORONADO HOSPITAL & HEALTHCARE CENTER	http://www.sharp.com
SHARP GROSSMONT HOSPITAL	http://www.sharp.com
SHARP MEMORIAL HOSPITAL	http://www.sharp.com
SHARP MESA VISTA HOSPITAL	http://www.sharp.com
SHERMAN OAKS HOSPITAL & HEALTH CENTER	http://www.shermanoakshospital.com
SHRINERS HOSPITALS FOR CHILDREN NORTHERN CALIFORNIA	http://shrinershq.org
SIERRA NEVADA MEMORIAL HOSPITAL	http://www.snmh.org/
SIMI VALLEY HOSPITAL & HEALTH CARE SERVICES - SYCAMORE	http://www.simivalleyhospital.com
SONORA REGIONAL MEDICAL CENTER-GREENLEY	http://www.sonoramedicalcenter.org
ST. AGNES MEDICAL CENTER	http://www.samc.com
ST. BERNARDINE MEDICAL CENTER	http://www.stbernardinemedicalcenter.org
ST. ELIZABETH COMMUNITY HOSPITAL	http://redbluff.mercy.org
ST. FRANCIS MEDICAL CENTER	http://www.stfrancismedicalcenter.org
ST. FRANCIS MEMORIAL HOSPITAL	http://www.saintfrancismemorial.org
ST. HELENA HOSPITAL	http://www.sthelenahospital.org
ST. JOHN'S HEALTH CENTER	http://stjohn.org
ST. JOHN'S PLEASANT VALLEY HOSPITAL	http://www.stjohnshealth.org

ST. JOHN'S REGIONAL MEDICAL CENTER	http://www.stjohnshealth.org
ST. JOSEPH HOSPITAL - EUREKA	http://www.stjosepheureka.org
ST. JOSEPH HOSPITAL - ORANGE	http://www.sjo.org
ST. JOSEPH'S MEDICAL CENTER OF STOCKTON	http://www.stjosephscares.org
ST. JUDE MEDICAL CENTER	http://www.stjudemedicalcenter.org
ST. LOUISE REGIONAL HOSPITAL	http://www.saintlouiseregionalhospital.org
ST. MARY MEDICAL CENTER	http://www.stmarymedicalcenter.org
ST. MARY MEDICAL CENTER - LONG BEACH	http://www.stmarymedicalcenter.org
ST. MARY MEDICAL CENTER - LOS ANGELES	http://www.stmarymedicalcenter.org
ST. MARY'S MEDICAL CENTER-SAN FRANCISCO	http://www.stmarymedicalcenter.org
ST. ROSE HOSPITAL	http://www.StRoseHospital.org
ST. VINCENT MEDICAL CENTER	http://www.stvincentmedicalcenter.com
STANFORD UNIVERSITY HOSPITAL	http://www.stanfordhospital.com
SUTTER AMADOR HOSPITAL	http://sutteramador.org
SUTTER AUBURN FAITH HOSPITAL	http://sutterauburnfaith.org
SUTTER COAST HOSPITAL	http://www.suttercoast.org
SUTTER DAVIS HOSPITAL	http://sutterdavis.org
SUTTER DELTA MEDICAL CENTER	http://www.sutterdelta.org
SUTTER MATERNITY & SURGERY CENTER OF SANTA CRUZ	http://www.suttersantacruz.org/
SUTTER MEDICAL CENTER - SACRAMENTO	http://www.suttermedicalcenter.org
SUTTER MEDICAL CENTER OF SANTA ROSA	http://www.suttersantarosa.org
SUTTER ROSEVILLE MEDICAL CENTER	http://sutterroseville.org
SUTTER SOLANO MEDICAL CENTER	http://suttersolano.org
SUTTER TRACY COMMUNITY HOSPITAL	http://www.suttertracy.org
TARZANA TREATMENT CENTER	http://www.tarzanatc.org
TORRANCE MEMORIAL MEDICAL CENTER	http://www.torrancememorial.org
TRI-CITY REGIONAL MEDICAL CENTER	http://tri-cityrmc.org
UCSF MEDICAL CENTER	http://www.ucsfhealth.org
UKIAH VALLEY MEDICAL CENTER - HOSPITAL DRIVE	http://www.uvmc.org
UNIVERSITY OF CALIF - SAN DIEGO MEDICAL CENTER	http://health.ucsd.edu/
UNIVERSITY OF CALIFORNIA DAVIS MEDICAL CENTER	http://www.ucdmc.ucdavis.edu
UNIVERSITY OF CALIFORNIA IRVINE MEDICAL CENTER	http://www.ucihealth.com
USC UNIVERSITY HOSPITAL	http://www.uscuniversityhospital.org/
VACA VALLEY HOSPITAL	http://www.northbay.org
VALLEY PRESBYTERIAN HOSPITAL	http://ValleyPres.org
VALLEYCARE MEDICAL CENTER	http://www.valleycare.com

VERDUGO HILLS HOSPITAL	http://www.vhhospital.org
VICTOR VALLEY COMMUNITY HOSPITAL	http://vvgmc.com/
WHITE MEMORIAL MEDICAL CENTER	http://www.whitememorial.com
WOODLAND MEMORIAL HOSPITAL	http://www.woodlandhealthcare.org

Appendix C: Operating Margin, Total Margin, and Free Cash Flow

Order Sequence	Facility Number	Ratio of Operating Margin	Ratio of Total Margin	Free Cash Flow
1	106400466	-0.04	-0.043	42,146
2	106150722	0.08	0.098	5,397,651
3	106184008	0.22	0.287	13,020
4	106090793	0.18	0.087	475,842
5	106330120	-0.05	-0.054	44,144
6	106190081	-0.01	-0.004	414,168
7	106304113	0.06	0.061	361,654
8	106204019	0.13	0.179	383,124
9	106190170	-0.03	0.020	94,180
10	106190636	0.04	0.048	748,496
11	106190176	0.01	0.059	1,211,918
12	106100005	0.15	0.172	101
13	106270744	0.09	0.103	1,171,622
14	106560473	0.07	0.101	188,593
15	106100717	0.05	0.070	2,262,248
16	106440755	0.10	0.126	1,406,347
17	106190243	-0.07	-0.044	242,346
18	106196168	0.02	0.028	173
19	106331168	-0.09	-0.016	2,508,987
20	106430763	0.07	0.090	1,617,166
21	106500867	0.01	0.036	270,301
22	106040962	0.04	0.048	487,508
23	106040875	0.03	0.033	3
24	106190298	0.04	0.045	171,461
25	106270777	0.00	0.015	15,541
26	106190323	0.02	0.031	1,364,598
27	106190522	-0.08	-0.070	11,713
28	106190392	-0.02	0.043	446,017
29	106160725	0.08	0.099	405,214
30	106190400	0.02	0.056	1,270,849
31	106380842	-0.17	0.016	149,411
32	106071018	0.00	0.012	237,416
33	106196404	0.25	0.338	135

34	106361246	0.07	0.071	2,494,723
35	106190525	0.12	0.153	3,116
36	106201281	0.06	0.065	581,802
37	106420493	0.03	0.043	2,158,073
38	106211006	0.07	0.013	1,142,201
39	106500939	0.13	0.162	837,532
40	106340947	0.06	0.074	24,279
41	106150761	0.08	0.112	2,472,349
42	106450949	0.10	0.147	2,480,452
43	106240942	0.05	0.031	477,917
44	106340950	0.03	0.037	267
45	106190529	0.00	0.004	1,235,923
46	106190524	0.02	0.023	259,013
47	106301262	0.08	0.094	2,755,548
48	106190552	-0.21	-0.088	83,189
49	106481357	0.00	0.014	260,822
50	106190568	0.08	0.086	10,989,273
51	106410852	0.04	0.082	219,273
52	106190630	0.03	0.030	1,423,959
53	106190631	0.08	0.101	94,374
54	106370673	0.14	0.077	272,657
55	106361308	0.01	0.032	231,768
56	106580996	0.00	0.030	338,517
57	106190796	0.13	0.141	13,096,582
58	106361318	0.02	0.090	1,364,558
59	106190687	0.15	0.174	726,712
60	106491064	0.05	0.059	2,656,471
61	106371256	0.22	0.276	4
62	106370771	0.15	0.180	17
63	106370744	0.05	0.056	7
64	106410891	0.07	0.103	2,218,726
65	106370875	0.01	0.035	64,059
66	106370689	0.04	0.064	24,987
67	106370714	0.03	0.048	1,514,872
68	106370745	-0.03	-0.016	0
69	106190708	0.05	0.084	142,750
70	106344114	-0.08	-0.072	1
71	106560525	-0.02	-0.009	16,068

72	106554011	0.06	0.070	1,253,286
73	106100899	-0.00	0.000	3,296,167
74	106521041	0.14	0.181	1,462,536
75	106190754	0.03	0.050	631,343
76	106380960	-0.02	0.015	239,643
77	106190756	-0.39	-0.283	984,745
78	106560508	-0.01	-0.002	567,818
79	106560529	-0.05	-0.046	452,241
80	106301340	0.01	0.044	5,255,429
81	106391042	0.02	0.040	2,813,767
82	106301342	0.07	0.111	3,132,764
83	106190053	0.07	0.076	64,682
84	106190053	-0.03	-0.035	43,129
85	106190053	-0.02	-0.039	43,131
86	106190762	-0.06	-0.046	607,428
87	106430905	0.08	0.061	15,768,673
88	106310791	0.03	0.043	213,756
89	106084001	-0.01	-0.006	96,824
90	106574010	0.20	0.248	159,502
91	106444012	0.29	0.400	81,848
92	106341051	0.11	0.127	1,043,315
93	106490919	0.02	0.017	112,832
94	106481094	-0.04	-0.032	198,056
95	106391056	0.19	0.242	134,484
96	106190782	-0.03	0.044	614,340
97	106190159	-0.03	0.017	276,110
98	106381154	0.06	0.073	8,388,210
99	106231396	0.06	0.054	620,514
100	106341006	0.07	0.084	5,220,523
101	106301279	0.11	0.133	896
102	106194219	-0.10	-0.091	15,668,038
103	106190812	0.04	0.049	156,177
104	106014050	0.03	0.028	529,300
105	106190818	0.00	0.019	18,129
106	106190878	0.04	0.087	9,433,091
108	106121080	0.05	0.053	346,697
109	106301340	0.01	0.044	5,255,429
110	106391042	0.02	0.040	2,813,767

111	106301342	0.07	0.111	3,132,764
112	106434138	-0.01	-0.017	137,097
113	106190053	0.07	0.076	64,682
114	106190053	-0.03	-0.035	43,129
115	106190053	-0.02	-0.039	43,131
116	106380965	-0.01	0.005	2,196,091
117	106010967	-0.09	-0.048	372,693
118	106190762	-0.06	-0.046	607,428
119	106430905	0.08	0.061	15,768,673
120	106034002	0.04	0.044	155,409
121	106310791	0.03	0.043	213,756
122	106084001	-0.01	-0.006	96,824
123	106574010	0.20	0.248	159,502
124	106070934	0.01	0.029	286,508
125	106444012	0.29	0.400	81,848
126	106341051	0.11	0.127	1,043,315
127	106490919	0.02	0.017	112,832
128	106311000	0.17	0.221	697,422
129	106481094	-0.04	-0.032	198,056
130	106391056	0.19	0.242	134,484
131	106190782	-0.03	0.044	614,340
132	106190422	0.03	0.077	733,197
133	106190159	-0.03	0.017	276,110
134	106381154	0.06	0.073	8,388,210
135	106231396	0.06	0.054	620,514
136	106370782	0.08	0.108	144,760
137	106341006	0.07	0.084	5,220,523
138	106301279	0.11	0.133	896
139	106194219	-0.10	-0.091	15,668,038
140	106484001	0.17	0.234	24,965
141	106190812	0.04	0.049	156,177
142	106014050	0.03	0.028	529,300
143	106190818	0.00	0.019	18,129
144	106361370	0.02	0.020	122,701
145	106190878	0.04	0.087	9,433,091
146	106571086	0.03	0.019	28,252

Appendix D: DUAL, PHYGOB, HOSIZE, HOSAGE, and BOSIZE

Order Sequence	Facility Number	DUAL	PHYGOB	HOSIZE (Total Assets-$)	HOSAGE (Logarithm)	BOSIZE
1	106400466	0	1	26,165,147	1.72	19
2	106150722	1	1	301,528,141	1.76	23
3	106184008	0	1	55,606,811	1.18	13
4	106190052	0	6	23,957,662	2.05	11
5	106090793	0	3	129,650,625	1.73	10
6	106330120	1	4	54,082,630	1.63	32
7	106190081	0	4	76,585,432	1.81	14
8	106010776	1	4	431,074,500	2.00	12
9	106304113	1	3	35,455,755	1.70	20
10	106204019	1	2	482,307,792	1.81	24
11	106190170	0	7	1,221,144,871	1.91	68
12	106300032	1	3	222,835,435	1.70	20
13	106190636	1	2	181,736,245	1.54	11
14	106190176	1	1	513,760,115	2.00	11
15	106100005	0	5	181,533,347	1.69	15
16	106361323	0	4	59,628,945	2.02	15
17	106270744	1	4	473,120,386	1.90	15
18	106560473	1	7	212,975,808	2.05	21
19	106100717	0	5	855,286,908	2.04	14
20	106390846	0	1	178,254,074	2.01	12
21	106440755	0	4	233,335,346	1.86	12
22	106190243	0	2	108,767,558	1.74	24
23	106196168	0	4	193,655,424	1.67	15
24	106010805	1	5	106,342,858	1.78	15
25	106331168	0	4	757,956,389	1.63	32
26	106430763	0	3	957,592,720	1.70	9
27	106500867	0	2	210,087,654	1.95	8
28	106190280	0	5	25,033,124	0.90	8
29	106040962	1	6	274,236,218	2.00	16
30	106040875	1	4	87,168,421	1.81	12
31	106190298	1	2	46,447,191	1.61	11
32	106400480	0	4	45,379,332	1.45	22
33	106270777	0	2	38,200,301	1.72	8

34	106190323	0	1	298,087,148	2.04	9
35	106190522	1	4	132,407,998	1.94	15
36	106420483	1	3	34,512,430	2.09	11
37	106190392	1	3	237,760,337	1.83	16
38	106160725	0	4	146,926,174	1.69	18
39	106190949	1	3	215,028,172	1.59	13
40	106301205	1	4	1,926,543,411	1.79	19
41	106190400	0	6	635,009,818	2.08	24
42	106380842	0	4	81,516,856	2.16	14
43	106071018	0	10	187,434,486	1.92	20
44	106070988	1	10	701,497,251	1.92	20
45	106196404	0	6	78,685,066	2.01	25
46	106361246	0	6	1,041,453,006	2.04	36
47	106190525	0	4	553,885,160	2.04	30
48	106434040	0	2	1,497,280,000	1.98	20
49	106201281	0	4	58,162,409	1.63	25
50	106420493	0	4	203,087,605	1.87	21
51	106211006	0	3	112,604,986	1.79	10
52	106090933	0	3	184,815,178	1.74	11
53	106500939	0	3	462,533,687	1.64	18
54	106340947	0	4	343,822,762	1.93	16
55	106150761	0	1	189,566,238	1.34	21
56	106344029	0	4	145,154,251	1.98	16
57	106450949	0	2	352,862,876	1.96	15
58	106240942	0	1	312,513,969	1.45	10
59	106340950	0	2	357,912,611	1.65	15
60	106340951	0	2	113,143,881	1.96	15
61	106190529	0	4	221,858,541	2.00	37
62	106190524	0	1	69,706,469	1.70	8
63	106301262	0	3	426,652,774	1.81	13
64	106361166	0	2	16,855,878	1.61	6
65	106190552	0	0	209,213,585	1.97	15
66	106481357	0	2	163,892,676	1.73	8
67	106190568	1	1	310,615,626	1.77	10
68	106430837	0	1	194,307,401	2.10	8
69	106410852	0	9	710,781,940	1.78	21
70	106190630	0	4	310,759,781	1.89	24
71	106190631	0	3	794,491,000	1.74	24
72	106281047	1	1	285,532,615	1.75	11

73	106370673	1	5	788,498,585	1.80	12
74	106361308	1	2	195,489,996	2.04	22
75	106580996	0	4	373,595,594	2.03	13
76	106150782	0	2	128,832,079	1.84	11
77	106190796	0	4	1,729,210,292	1.77	20
78	106361318	0	2	365,410,966	2.03	9
79	106150788	0	4	162,857,894	1.62	13
80	106420514	0	2	918,537,866	2.09	11
81	106190687	0	2	512,168,935	2.01	8
82	106491064	0	2	341,673,496	1.81	21
83	106371256	0	3	253,866,188	1.95	16
84	106371394	0	3	87,522,406	1.95	16
85	106370771	0	3	287,254,103	1.95	16
86	106370744	0	3	226,711,502	1.95	16
87	106410891	1	6	293,963,321	1.88	16
88	106410817	0	1	178,512,770	2.01	9
89	106370875	0	3	168,348,071	1.77	13
90	106370689	0	4	26,154,407	1.77	15
91	106370714	0	2	358,831,584	1.77	11
92	106370694	0	4	655,499,956	1.77	17
93	106370745	0	4	30,620,948	1.77	24
94	106190708	0	2	32,669,021	1.30	6
95	106344114	0		95,160,735	1.96	15
96	106291023	0	2	182,333,397	1.75	11
97	106560525	0	5	115,461,365	1.70	13
98	106554011	1	3	83,406,335	1.69	13
99	106100899	0	3	623,400,059	1.93	15
100	106361339	0	1	134,038,630	1.92	10
101	106521041	0	2	99,722,576	1.99	22
102	106190754	0	2	352,349,324	1.84	13
103	106380960	1	3	267,662,154	2.04	20
104	106281078	1	1	77,629,872	2.13	7
105	106190756	0	2	492,201,622	1.79	14
106	106560508	0	1	65,937,134	2.01	19
107	106560529	0	1	229,941,677	2.01	19
108	106121080	0	4	112,230,888	1.78	18
109	106301340	0	1	812,085,075	1.93	10
110	106391042	0	2	307,890,920	2.06	17
111	106301342	1	2	579,984,364	1.70	29

112	106434138	0	1	37,281,956	1.40	8
113	106190053	0	4	87,098,778	1.96	46
114	106190053	0	4	87,098,778	1.96	46
115	106190053	0	4	87,098,778	1.96	46
116	106380965	1	4	169,623,756	1.96	46
117	106010967	1	3	70,636,995	1.57	24
118	106190762	0	2	159,713,299	2.00	15
119	106430905	0	5	2,200,740,192	1.74	22
120	106034002	0	4	63,135,131	1.38	17
121	106310791	0	4	69,107,522	1.68	17
122	106084001	0	2	35,329,486	1.45	8
123	106574010	0	4	41,008,316	1.30	17
124	106070934	0	1	120,610,271	1.60	9
125	106444012	0	6	24,391,450	1.26	22
126	106341051	0	6	747,272,314	1.84	27
127	106490919	0	8	74,109,047	1.89	32
128	106311000	0	4	363,415,725	1.79	17
129	106481094	0	4	87,460,963	1.97	17
130	106391056	0	2	73,439,752	1.82	15
131	106190782	0	2	28,293,124	1.62	15
132	106190422	0	1	590,670,650	1.95	12
133	106190159	0	1	29,478,406	1.72	6
134	106381154	0	5	1,123,320,860	2.18	24
135	106231396	1	6	46,522,614	1.20	16
136	106370782	0	3	681,596,631	1.72	12
137	106341006	0	5	1,356,407,816	2.04	48
138	106301279	0	13	719,435,998	1.69	13
139	106194219	0	7	415,233,114	2.10	27
140	106484001	0	2	65,880,231	1.76	8
141	106190812	0	7	111,929,340	1.75	19
142	106014050	0	4	200,990,819	1.36	14
143	106190818	0	4	41,564,433	1.83	16
144	106361370	0	1	32,563,577	1.67	4
145	106190878	0	3	500,677,247	1.82	16
146	106571086	0	3	65,385,830	1.67	8

Appendix E: Communication With Lexie Bloyd of OSHPD Database

Anh Pham < >
11/27/14
to lexie.bloyd <>
Dear Lexie Bloyd,
My name is Anh Pham. I am a PhD student in the School of Management of Walden University, Minneapolis, Minnesota. I am undertaking a dissertation study examining the effects of CEO duality (CEO who is also Chairman of Boards of Directors) and presence of physicians on governance boards on financial performance of not-for-profit hospitals. I am hoping the outcomes of this study could suggest an appropriate governance structure to administrators of not-for-profit hospitals seeking policies or processes that would help them sustain and enhance their finance performance and organizational missions. My dissertation committee includes Dr. Jeffrey Prinster, Dr. Thomas Spencer, and Dr. Godwin Igein, who are prestigious professors of the most excellent institute of Walden University. I feel so fortunate to have a committee that has been guiding and supporting me to a full extent, and has reviewed and approved my dissertation proposal.
For data collection, I would like to be able to access publicly reported financial data such total margins, operating margins, and other financial indicators submitted by not-for-profits listed in the databases of OSPH and SIERA. For data related to governance, I would like to be able to examine the governance structure of each of not-for-profit hospital to determine whether there is presence or absence of CEO duality or physicians on governance board. The collected data are entered into statistical software for running statistical tests using statistical correlation and multiple regression models, and the results will be used to determine whether CEO duality and presence of physicians on governance boards are good for financial performance of not-for-profit hospitals. All data will be carefully safeguarded, kept confidential and will be disposed properly once the study is over.
Regarding accessibility to public databases, I am aware that I can access to relevant information and data from the public OSPH database in the format of Excel files without any restriction of required user identification and password. However, the SIERA database requires that users need to be authorized and set up an account before having access to the SIERA database.
Therefore, I am writing earnestly to request you to grant me permission to access the SIERA database. If my enquiry is not within your authority, I am very grateful if you can kindly direct me to appropriate individuals, offices, or institutes that can assist me in getting access to the SIERA database. Moreover, I also respectfully ask you to inform me whether the data contained in SIERA are similar and identical to those of the OSHPD database.

Thank you very much for your consideration, and I am looking forward to hearing from you soon.
Respectfully,

--
Anh Pham
Walden University
Student ID#A00275579
PhD Management, LOC

Email

Anh Pham < >
11/27/14

to lexie.bloyd < >
Dear Lexie Bloyd,

I would like to add that I have proposed that I would use statistical correlation and multiple regression and SPSS software to analyze secondary data or archived data of financial indicators from 107 U.S not-for-profit organizations selected from the Office of Statewide Health Planning and Development (OSHPD) databases of States of California, for the period of 2010 to 2012.

Best regards,
Anh Pham

Bloyd, Lexie@OSHPD < >
12/1/14

to me
Anh –

The data that is contained in the SIERA database is the same data contained on our website.

http://oshpd.ca.gov/HID/DataFlow/

Here you will find information from several separate databases. The SIERA system was designed to assist report preparer's in the submission process only. It is NOT for data dissemination. If you would like to view a specific facility's report, you can find individual financial disclosure reports here:
https://siera.oshpd.ca.gov/FinancialDisclosure.aspx.

If I can assist you in navigating through the data, please feel free to contact me.

Lexie

Anh Pham < >
12/1/14

to Lexie.Bloyd
Thank you, Lexie!

This is a great news. I am most grateful for your offer to assist me in navigating through the data. I will defintely need help on this area. When the time comes, I would like to contact you.

Would it be OK with you if I can contact you by telephone? Thank you very much!
Best regards,
Anh

Bloyd, Lexie@OSHPD < >
12/1/14

to me
Yes, you may call me to go over the data. Perhaps you can email me to let me know when you plan on calling so I can free my calendar.

Lexie

Anh Pham < >
12/1/14

to Lexie.Bloyd
Hi Lexie,

I have one question. Do not-for-profit hospitals report their governance information such CEO, CEO/Chairman, presence of physicians on the boards? In other words, does OSHPD database contain the governance information of not-for-profit hospital I am looking for?

Thanks for helping me!
Best regards,
Anh

Bloyd, Lexie@OSHPD < >
12/2/14
to me

Anh –

Yes, on Page 3.2 on the Hospital Annual Disclosure Report, we collect a Statement of Compensation of Owners and their Relatives and on Page 3.3, we collect Hospital Owners and Governing Board Members. We ask that they complete the occupation of these owners and board members as well.

Lexie

Anh Pham < >
12/2/14

to Lexie.Bloyd
Hi Lexie,

Thank you so very much! I think all the data I need is available in the OSHPD database.

Anh Pham < >
12/3/14

to Lexie.Bloyd
Hi Lexie,

Today, I just received an approval from my educational institute (Walden University) to go ahead and work on data collection and analysis. I am so thankful to get this far because I was able to show that you as the OSHPD administrator confirmed the availability and accessibility of the database. Thank you very much for your kindness and offer to help me! I am very grateful.

I was wondering if you are available on Monday 12/04/14 for me to call you so you can assist me in going through the data. I am very flexible with day and time. Please pick any day and time that is convenient for you to help me.

Sincerely,

From: Anh Pham [ ]
Sent: Saturday, December 06, 2014 11:15 AM
To: Bloyd, Lexie@OSHPD
Subject: Anh_Pham Request of Help

Dear Lexie,
Thanks again for your kindness and genuine offer to help me with data collection!

As I am about to start the process of data collection and try understanding what data and its meaning, I would like to take the opportunity to explain the scope of my search of data. I will choose randomly 107 not-for-profit hospitals the list of not-profit hospitals listed in OHSPD database and examine the financial data and governance information of the selected hospitals.

For financial data, I will analyze the annual financial reports for 2009 to 2012 for each hospital. The financial data that I will examine include operating margin, total margin, and free cash flow. Please correct me if I am wrong. Below are how I think I will calculate the operating margin, total margin, and free cash flow. So please provide me any comments you may have regarding the calculation of these variables.

The Operating Margin is calculated by dividing the difference between total operating revenue and total operating expenses by the total operating revenues and expressed as ratio of [(Total operating revenue – Total operating expense)/ Total operating revenue]

The Total Margin is calculated by dividing net income by total operating revenue and expressed as Net Income/ Total Operating Revenue

Free Cash Flow represents cash inflow and outflow rather than accounting earnings of a hospital. It shows the amount of cash left over after accounting for all of the expenses to operate the hospital and making all necessary investments to ensure its continuous operation. The Free Cash Flow is calculated by subtracting the change in net assets plus interest and noncash expenses from the investments in fixed assets and net working capital (Singh, Wheeler, & Roden, 2012). Alternatively, the free cash flow can be estimated by averaging the current and two prior periods and multiplying by an average annual growth rate of 7.3%, which is based on data from the American Hospital Association (Singh, Wheeler, & Roden, 2012, p.330). I adopted the calculation method of the free cash flow used by Sigh et al. (2012). FCF is expressed in the formula below:

FCF = ((cFCF + priop1FCF +priop2FCF)/3) * 0.073
Where:
cFCF = current FCF
priop1FCF = prior period 1 FCF
priop2FCF = prior period 2 FCF

Actually, as a preliminary search and examination of the OHSPD website, I took the liberty and explored the Annual Financial Data Complete Data Set and Pivot Profiles contained in Healthcare Information Division/Data/Financial link of the OHSPD website. I looked at the income statement and ratio data of a LTC Pivot report of a hospital (as

captured below) and realized that the report has some financial ratios, especially the Operating Margin, formulated and calculated already.

I am respectfully hoping that you can direct me to where I can find the Total Margin and hopefully some hints about how to calculation the Free Cash Flow based on the data available and presented in the LTC Pivot report.
Inline image 1

Regarding the corporate governance data of hospitals, I will collect data such as CEO duality (CEO who is also the chairperson of the governance board), Physicians on Governance Board, hospital size, hospital age, board size. I would be very grateful if you can provide some tips on how to efficiently collect and download these information of the 107 not-for-profit hospitals I will select from the OHSPD.

Would you kindly inform if you are available on Tuesday 12/09 or Wednesday 12/10 or Thursday 12/11 or Friday for me to contact you via telephone for assistance with questions related to data? I am flexible with the dates and times. Please let me the date and time that are most convenient for you. Thank you for helping me, and I am excitedly looking forward to hearing from you!

Sincerely,
Anh Pham

--
Anh Pham
Walden University
Student ID#A00275579
PhD Management, LOC

Bloyd, Lexie@OSHPD < >
12/11/14

to me
Dear Anh,

Due to unforeseen circumstances, I was not able to be in the office this morning. I sincerely apologize about missing today's telephone conference. I will reschedule once I get back in office. As a recap, you are correct in your assumption of the total operating margin and total margin; however, I am unsure as to the LTC pivot profile providing you information that you need free cash flow analysis.

Sincerely,

Lexie Bloyd, LTC Unit Supervisor

Healthcare Information Division

Bloyd, Lexie@OSHPD < >
12/11/14

to me
Hi Anh –

Again, I apologize, but there is a severe storm in Sacramento today and things have been
hectic. Perhaps you can give me some times that are good for you?

Thank you and I apologize for any inconvenience this may have caused you.

Lexie

Bloyd, Lexie@OSHPD < >
12/11/14

to me
Hi Anh –

I tried calling and received an automated message saying that the number was
disconnected. The number I called was :

949-825-1831

I will try again tomorrow…

Lexie

Walden < >
12/11/14

to Lexie.Bloyd, bcc: me
Hi Lexie
No worries! You are doing me favor. So, I am absolutely very flexible with your
schedule.
I apologized for leaving you a wrong number to call back. The number is I think I will
not come in to work tomorrow due to expected heavy rains because of storm. The
highway to my workplace could be closed tomorrow, so I figured I should be home for
safety reason.
If you call me, please call my cell at. Otherwise I can call you if you don't mind.
Thank you for helping me!

Best,

Anh Phạm

Bloyd, Lexie@OSHPD < >
12/17/14

to me
https://www.alirts.oshpd.ca.gov/default.aspx

Enter FAC_NO in search box.

I hope this helps!!

Anh Pham < >
Attachments 12/17/14

to Lexie.Bloyd
Dear Lexie,

Thanks for your time and patience this afternoon to go over data from your website. I am very grateful for that. Also, thanks for the link. I will definitely check it out to search for other necessary data.

Can you kindly do me a favor? Please view the Excel file enclosed and confirm with me the following things:

Columns DN, DQ, and DW are total operating revenue, net from operation, and net income, respectfully.

Thanks!
Best,

Bloyd, Lexie@OSHPD < >
12/22/14

to me
Anh –

That is correct.

Lexie

Anh Pham < >
12/22/14

to Lexie.Bloyd
Thanks, Lexie.

is DP the data column for Total Operating Expense?

Best,
Anh

Bloyd, Lexie@OSHPD < >
12/29/14

to me
No. AW is total Healthcare expense. DP is Housekeeping expense.

Walden < >
12/29/14

to Lexie.Bloyd, bcc: me
Thanks, Lexie. Would the total healthcare expenses be considered as the Total operating
expenses?

Anh Phạm

Bloyd, Lexie@OSHPD < >
12/29/14

to me
Yes.

Anh Pham < >
Jan 11

to Lexie.Bloyd

Dear Lexie,

Hope your New Year starting well!

I have another question. Based on past research, the hospital size was measured by the logarithm of total assets (Peng, Li, Xie, & Su, 2010). Would you please tell me what column of the files on the 2007 Excel Version on the link below that indicate total assets of hospitals.

http://oshpd.ca.gov/HID/Products/Hospitals/AnnFinanData/CmplteDataSet/index.asp

Thank you for helping me!

Best regards,

Anh

Bloyd, Lexie@OSHPD < >
Jan 14 (12 days ago)

to me
Hi Anh –

In the 38th Year Complete Data set for hospitals, Column BRB represents Total Hospital Assets reported on the Balance Sheet.

Appendix F: Communication With Kyle Rowert of OSHPD Database

Anh Pham < >
12/16/14
to kyle.rowert
Dear Kyle,

It is Anh Pham, PhD student of Walden University. I had contacted you earlier regarding the access of data of OSHPD. Thanks again for your kindness and genuine offer to help me with data collection!
As I am about to start the process of data collection and try understanding what data and its meaning, I would like to take the opportunity to explain the scope of my search of data. I will choose randomly 107 not-for-profit hospitals the list of not-profit hospitals listed in OHSPD database and examine the financial data and governance information of the selected hospitals.
For financial data, I will analyze the annual financial reports for 2009 to 2012 for each hospital. The financial data that I will examine include operating margin, total margin, and free cash flow. Please correct me if I am wrong. Below are how I think I will calculate the operating margin, total margin, and free cash flow. So please provide me any comments you may have regarding the calculation of these variables.
The Operating Margin is calculated by dividing the difference between total operating revenue and total operating expenses by the total operating revenues and expressed as ratio of [(Total operating revenue – Total operating expense)/ Total operating revenue]
The Total Margin is calculated by dividing net income by total operating revenue and expressed as Net Income/ Total Operating Revenue
Free Cash Flow represents cash inflow and outflow rather than accounting earnings of a hospital. It shows the amount of cash left over after accounting for all of the expenses to operate the hospital and making all necessary investments to ensure its continuous operation. The Free Cash Flow is calculated by subtracting the change in net assets plus interest and noncash expenses from the investments in fixed assets and net working capital (Singh, Wheeler, & Roden, 2012). Alternatively, the free cash flow can be estimated by averaging the current and two prior periods and multiplying by an average annual growth rate of 7.3%, which is based on data from the American Hospital Association (Singh, Wheeler, & Roden, 2012, p.330). I adopted the calculation method of the free cash flow used by Sigh et al. (2012). FCF is expressed in the formula below:
FCF = ((cFCF + priop1FCF +priop2FCF)/3) * 0.073
Where:
cFCF = current FCF
priop1FCF = prior period 1 FCF
priop2FCF = prior period 2 FCF
Actually, as a preliminary search and examination of the OHSPD website, I took the liberty and explored the Annual Financial Data Complete Data Set and Pivot Profiles contained in Healthcare Information Division/Data/Financial link of the OHSPD website.

I looked at the income statement and ratio data of a LTC Pivot report of a hospital (as captured below) and realized that the report has some financial ratios, especially the Operating Margin, formulated and calculated already.

I am respectfully hoping that you can direct me to where I can find the Total Margin and hopefully some hints about how to calculation the Free Cash Flow based on the data available and presented in the LTC Pivot report.

Inline image 1

Regarding the corporate governance data of hospitals, I will collect data such as CEO duality (CEO who is also the chairperson of the governance board),Physicians on Governance Board, hospital size,hospital age, board size. I would be very grateful if you can provide some tips on how to efficiently collect and download these information of the 107 not-for-profit hospitals I will select from the OHSPD.

Would you kindly inform if you are available on Wednesday 12/17 or Thursday 12/18 or Friday 12/19 or Monday 12/22, or Tuesday 12/23 for me to contact you via telephone for assistance with questions related to data? I am flexible with the dates and times. Please let me the date and time that are most convenient for you. Thank you for helping me, and I am excitedly looking forward to hearing from you!

Please provide me your office number to call me whenever it is convenient. Thanks!
Sincerely,
Anh Pham
Rowert, Kyle@OSHPD < >
12/18/14
to me
Hi Anh,
I'm a little busy at the moment but will answer a few of your questions and give you some tips on where to find your data.
Your formulas are correct.
You can get Operating Margin and Total Margin from the "Profile" worksheet on our Pivot Profiles located here:
http://www.oshpd.ca.gov/HID/Products/Hospitals/AnnFinanData/PivotProfles/default.asp
Operating Margin would be found in cell G19
Total Margin would be in cell G20
For cash flows, I wanted to point out that we do have a statement of cash flows from the hospital that shows the beginning and ending cash amounts as well as the cash going in and out due to various activities. This can be found on our annual reports from the following link:
https://siera.oshpd.ca.gov/FinancialDisclosure.aspx
just type the hospital name and year range and click "go" to get a list of reports. Click on the PDF icon to download the report.
The Statement of Cash Flows is on page 31.
You can also find some of your other information on this report.
Governing Board information would be on page 13.
Hospital bed size can be found on page 7.

We wouldn't have any data on hospital age.
If you are looking to do only LTC hospitals then you should contact Lexie Bloyd at < >
otherwise I can help you with the acute hospital financial data.
I have meetings today and tomorrow but would be available to talk on Monday,
December 22.
Thank you Anh

Kyle Rowert
Hospital Unit Supervisor
Healthcare Information Division
Office of Statewide Health Planning and Development
400 R Street, Suite 250
Sacramento, CA 95811
E-mail:
Web Page: www.oshpd.ca.gov
Walden < >
12/18/14

to Kyle.Rowert, bcc: me
Hi Kyle,
You have provided me great info on what areas I can maneuver to search the data I need
from the database. I am grateful for your help.
For now I will analyze the data, and if you don't mind, I would like to email you
questions I have as I progress. That way, I will not occupy your time with telephone calls.
Thank you!
Best,
Anh Phạm
Anh Pham < >
12/18/14
Hi Kyle,
I have a question

If I defined the free cash flow is calculated by subtracting the change in net assets plus
interest and non-cash expensesfrom the investments in fixed assets and net working
capitals, then I am looking at the item 225 (cash at the end of year) pulled from the
Statement of Cash Flows on page 31. Please see image below. Thanks!

Best regards,
Anh

Rowert, Kyle@OSHPD < >
12/23/14

to me

Hi Anh,

You are close, line 225 is the cash the hospital has at the end of the reporting period and would be the result of Net Income, change in assets and liabilities for operating activities during the year, cash flows from investing and financing activities, and the beginning cash balance at the start of the year.

Please let me know if you have any additional questions Anh.

Kyle

Anh Pham < >
12/23/14

to Kyle.Rowert
Dear Kyle,

Thanks!

I am looking at Licensed Beds, Available Beds, and Staffed Beds. Could you please tell me which one reflects the actual hospital bed size (or the hospital size) in your opinion? Thanks!

Best,
Anh

Anh Pham < >
12/23/14

to Kyle.Rowert
Regarding your answer below:

"For cash flows, I wanted to point out that we do have a statement of cash flows from the hospital that shows the beginning and ending cash amounts as well as the cash going in and out due to various activities. This can be found on our annual reports from the following link:
https://siera.oshpd.ca.gov/FinancialDisclosure.aspx
just type the hospital name and year range and click "go" to get a list of reports. Click on the PDF icon to download the report.
The Statement of Cash Flows is on page 31."

My question is: Is there a report containing the statement of cash flow of each of hospital. In other words, I have list of more 100 hospitals. I am looking for a file that helps me retrieve of Free Cash Flow from a file instead of typing each name of hospital and downloading 100 files of reports.

Thanks!

Rowert, Kyle@OSHPD < >
Jan 2

to me
Hi Anh,
I think most people would look at licensed beds to see how large a hospital is.

Kyle

Rowert, Kyle@OSHPD < >
Jan 2

to me
Hi Anh,
Unfortunately there isn't a report that just gets you cash flow for all hospitals but we do have a datafile that includes all data items for all hospitals for a particular reporting year. The file can be found here:
http://oshpd.ca.gov/HID/Products/Hospitals/AnnFinanData/CmplteDataSet/index.asp

The Statement of Cash Flows starts on column CZR on the 2007 Excel version. Row 1-3 shows the page, column and line number of the annual report respectively. For example, if you were looking for cash at the end of the year, which is on page 9, column 1, line 225 of the report, you would find that data on column DBJ.

Please let me know if you have any additional questions Anh and have a great weekend.

Kyle

Anh Pham < >
Jan 11

to Kyle.Rowert
Dear Kyle,

Based on past research, the hospital size was measured by the logarithm of total assets (Peng, Li, Xie, & Su, 2010). Would you please tell me what column of the files on the 2007 Excel Version on the link below that indicate the total assets of hospitals.

http://oshpd.ca.gov/HID/Products/Hospitals/AnnFinanData/CmplteDataSet/index.asp

Thank you for helping me!

Best regards,

Anh
Rowert, Kyle@OSHPD < >
Jan 13 (13 days ago)

to me
Hi Anh,
Total Assets can be found on column BRB.

Please let me know if you have any additional questions Anh.

Kyle

Appendix G: NIH Certificate of Completion

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Anh Pham** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 12/14/2011

Certification Number: 818495